MAY, 1956

Traffic Engineering

New ASPE Building to House ITE Headquarters in Washington, D.C.

- "Pen-Pointing" Traffic Signal Problems
- Municipal Parking Program in East Orange, N. J.
- Integrating Urban Expressway Planning Efforts
- Characteristics of a Commuter's Garage

Official Publication of the Institute of Traffic Engineers

Stop!

Look!

Heed!

•

The Institute Headquarters office will be moved to Washington, D.C. on or about June 1. We will need your help in remembering to send all information, requests and material to the new offices to be located at 2029 K Street, N.W. after May 31.

Our aim is to please YOU. Help us in this objective. Keep June 1 in mind. If YOU do this you will alleviate considerably what well might result in utter confusion in the Headquarters office — and the New Haven Post Office. And, we do want to hear from you — in Washington

•

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INSTITUTE OF TRAFFIC ENGINEERS

2029 K STREET N.W. WASHINGTON 6, D.C.

USE IT AFTER JUNE 1st!

D. O. OPSTAD,
General Sales Manager,
Reflective Products Division, Minnesota Mining & Mfg. Co., St. Paul 6, Minnesota.

An open letter to

TRAFFIC ENGINEERS

SAFETY ON TODAY'S ROADS is a story that often gets buried behind the big headlines and glamor appeal about new superhighways.

But the story of modernization of existing highways—and the vital need of funds for improvement—is one we know well.

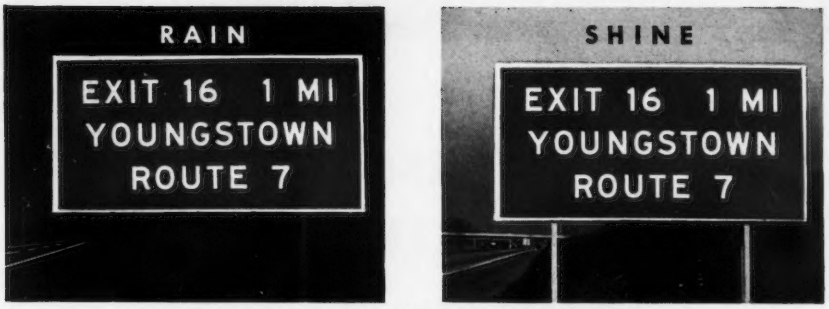
This story of an acute national need is being told now! The advertisement on the facing page is the first of a new series prepared to acquaint the public with this story . . . and what can be done *NOW* to bring modern safety measures to roads *TODAY.*

Notice how the headline points out that although new superhighways are being planned, safety on today's roads is a *must* now! Yes, gentlemen, this urgent story *is* being told . . . and through this new series, the public will come to know your problems and your solutions. And with this knowledge, they can give the sincere support necessary to put your plans in action.

The first advertisement will appear in the March 23 issue of U. S. News & World Report. Look for it . . . and plan to use it. This is the kind of public relations program that will kindle the spark to awaken public and legislative groups in support of your specific highway improvement plans.

D. O. Opstad

P. S. Reprints of this advertisement are available for use by your office in letters or other mailings. Write, stating number of reprints desired, to: D. O. Opstad, Reflective Products Division, Minnesota Mining & Mfg. Co., Dept. GS-56, St. Paul 6, Minnesota.



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Rain or Shine, at any angle SCOTCHLITE gives long range visibility

REFLECTIVE SHEETING

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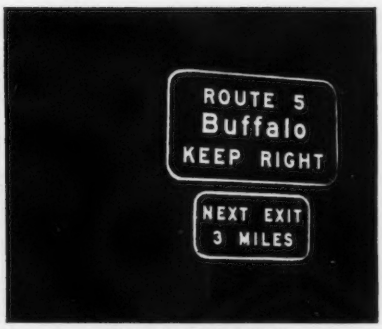

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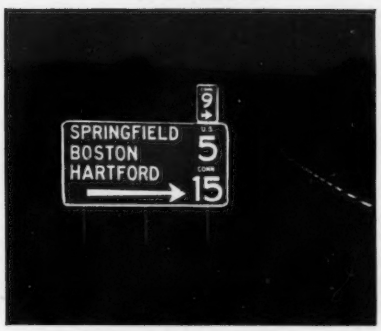

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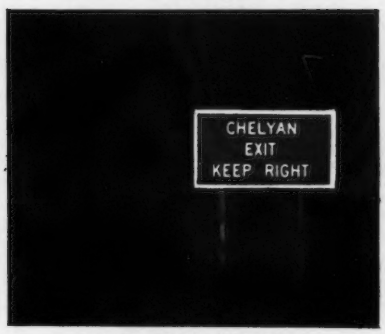
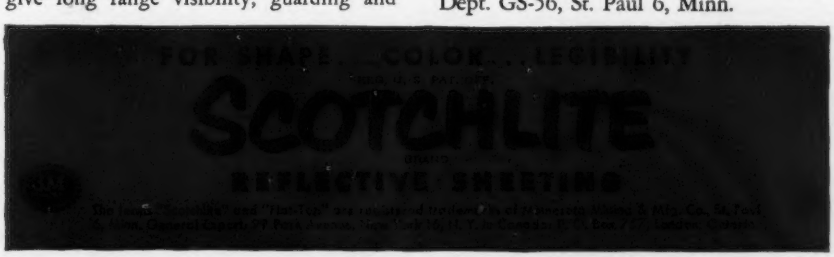


WEST VIRGINIA TURNPIKE

Leading turnpikes turn to BIG, COLORFUL signs of SCOTCHLITE for smooth traffic control!

REFLECTIVE SHEETING

The engineers of today's expressways have set a definite safety standard for signs—they *must* be visible from the greatest possible distance and clearly legible *both* day and night, from *any* angle, in *any* weather. That's why the country's leading turnpikes have turned to signs of Wide Angle Flat-Top SCOTCHLITE Reflective Sheeting. Big, brilliant, colorful signs of SCOTCHLITE Sheeting give long range visibility, guarding and guiding motorists 24 hours a day, rain or shine. At night, they reflect *exactly* the *same* shape, color and message as by day. Long-lived SCOTCHLITE Reflective Sheeting is easy to apply, economical to maintain—additional reasons why it is first choice on the nation's major turnpikes! For complete information on modern highway signing, write: Minnesota Mining & Mfg. Company, Dept. GS-56, St. Paul 6, Minn.



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gives the motorist time to be safe!

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AVERAGE STOPPING DISTANCE 132 FEET AT 40 M.P.H.
BRAKING DISTANCE
ALTHOUGH GROTELITE STILL CLEARLY LEGIBLE, IT'S TOO LATE TO HEED WARNING OF ANY TYPE IN THIS DANGER ZONE.
REACTION DISTANCE
GROTELITE SS CLEARLY LEGIBLE THROUGHOUT THIS DISTANCE!
GROTELITE SS VISIBLE HUNDREDS OF FEET BEFORE THIS POINT!

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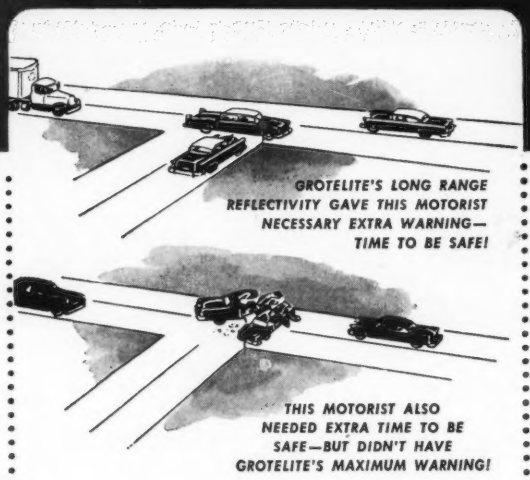

GROTELITE'S LONG RANGE REFLECTIVITY GAVE THIS MOTORIST NECESSARY EXTRA WARNING— TIME TO BE SAFE!

THIS MOTORIST ALSO NEEDED EXTRA TIME TO BE SAFE—BUT DIDN'T HAVE GROTELITE'S MAXIMUM WARNING!

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"Everyone in our Highway Division was greatly impressed by your demonstrations on target value. Grotelite certainly lives up to your claims!"
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NO PARKING
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Traffic Engineering

OFFICIAL PUBLICATION OF THE INSTITUTE OF TRAFFIC ENGINEERS

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COVER: The new National Society of Professional Engineers building located at 2029 K Street in downtown Washington, D.C. will house the Headquarters office of the Institute of Traffic Engineers. This building, recently completed and costing $300,000, is a four-story, reinforced concrete structure and will be equipped with air conditioning. Eleven hundred square feet of space on the third floor will be devoted exclusively to the Institute. The Headquarters of the Institute will be moved to this new location on or about June 1 of this year.

DEFINITION: Traffic Engineering is that phase of engineering which deals with the planning and geometric design of streets, highways, and abutting lands, and with traffic operation thereon, as their use is related to the safe, convenient, and economic transportation of persons and goods.

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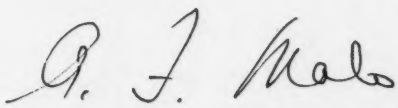
Frankly Speaking

THE WIDESPREAD INTEREST, by all segments of the public in the traffic and highway problem particularly during the last several months, is encouraging. Public opinion has been aroused to the point where legislators and government leaders are busily engaged in a development of a program to give the public more and better roads. The additional traffic capacity provided by this proposed expanded highway program should aid appreciably in easing our accident and congestion problems, particularly in many of our urban areas. In most cities and states, traffic engineers will have the opportunity to participate in the design of these new facilities so that when placed in operation hey will function at maximum efficiency. We should not lose sight of the fact, however, that these new highways will accommodate only a portion of the travel of the motoring public. It will be necessary to continue to operate our present street system as efficiently as now, and to make even additional improvements.

Many communities across the country are conducting special studies in order to determine the number, type and location of new facilities needed for the future. These studies underscore the need for maintaining and improving our present street systems. In the Detroit Metropolitan Area where an expressway system of over two hundred miles is being planned for completion by 1980, a recent study revealed that only one-third of the trips and forty per cent of the vehicle miles will use the new system at that time. This means that two-thirds of the 1980 trips and sixty per cent of the vehicle miles will be traveled on the present street system. This is a very important point which may be overlooked by highway and traffic engineers as they look ahead to what appears to be a rosy future with its new limited access highways and expressways spanning the country and serving our urban centers. The plain truth of the matter, however, is that unless we continue to devote considerable attention to our existing street system, the construction of new facilities will not bring the desired relief.

Obviously, the traffic engineer will still have to make the best of the existing street system. His basic tools, signs signals and pavement markings, will still be required. He will still need to continue to plan jog eliminations, street openings, channelizations, and will have to regulate curb parking just as he has in the past. Local government officials, however, may be inclined to reduce allocations for local street improvements in the face of increased Federal aid for high-type facilities. It will be the responsibility of the traffic engineer to prove that the expenditure of local funds for street and highway improvements must be maintained at the same or an accelerated level if we are to keep abreast of increases in traffic. Such facts, as are revealed in the Detroit study, are an example of the type of information the traffic engineer needs. Additionally this survey predicted a sixty-five per cent increase in traffic volumes by 1980. This increase obviously applies equally to those trips and vehicle miles which will be traveled on the surface street system. Any program, therefore, based on the assumption that new limited access highways and expressways alone will solve our traffic and highway problems will not be adequate and could in the future result in a greater traffic problem than we encounter today.

The public has shown by its willingness to support an extensive road building program that it is willing to underwrite any reasonable program for the betterment of traffic conditions. Now seems to be the appropriate time to bring these important facts to the attention of public leaders who might otherwise believe that the provision of new facilities would remove the necessity of further developing the present system of streets. Local funds should be diverted to the improvement of the other major streets and highways which will still be required to carry large volumes of traffic but which will not be eligible for increased Federal matching funds.



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"Pen-Pointing" Traffic Signal Troubles

Robert H. Warr (Jun. Mem., ITE)
Traffic Signal Engineer
Traffic Engineering Division, Seattle, Washington

MANY TIMES the operational section of the Seattle Traffic Engineering Division is faced with the situation where a phone call is received advising that a signal is not operating properly and after a trip to the scene, the serviceman will return and report, "Signal O.K. on arrival." Shortly thereafter another call will come in, saying, "The signal isn't working again. It quit just after your serviceman left."

Gremlins of this sort seem to delight in working on the outlying signals or traffic-actuated equipment. Traffic-actuated controls because of the very nature of their operation make the detection of intermittent trouble doubly difficult.

In order to provide an economical method of obtaining continuous in-service checks on control equipment as well as a timing check on actuated equipment, the Seattle Traffic Engineering Division acquired an Esterline-Angus operational recorder of the 20-pen type. Eight pens are operated by 120 volts A.C. and 4 pens are operated by 12 volts A.C. The 120-volt pens are for connection directly to the signal or mastering circuits and the 12-volt pens for the connection to detector circuits.

A spring-wound motor drive was ordered to make the unit independent of a local power source and to provide continuous operation in the case of power failure.

As the normal installation of an Esterline-Angus recorder is on a switchboard or other interior location, it was necessary to provide a special weatherproof, tamper-proof and readily movable housing. A traffic signal control box made a natural housing, and the clamps shown in the photographs provided a rapid method of attaching the unit to a control pedestal. A multi-conductor signal cable running from the terminal in the signal control box to a terminal strip in the recorder housing permits rapid electrical connections. When the recorder is used in connection with equipment mounted in the large type control cabinets, it is removed from its own cabinet and installed directly inside the control cabinet.

The operational function of the recorder may be used to obtain the following information:

I. With Fixed Time Operation
   A. Time of operation of clocks
   B. Which cycle is in operation

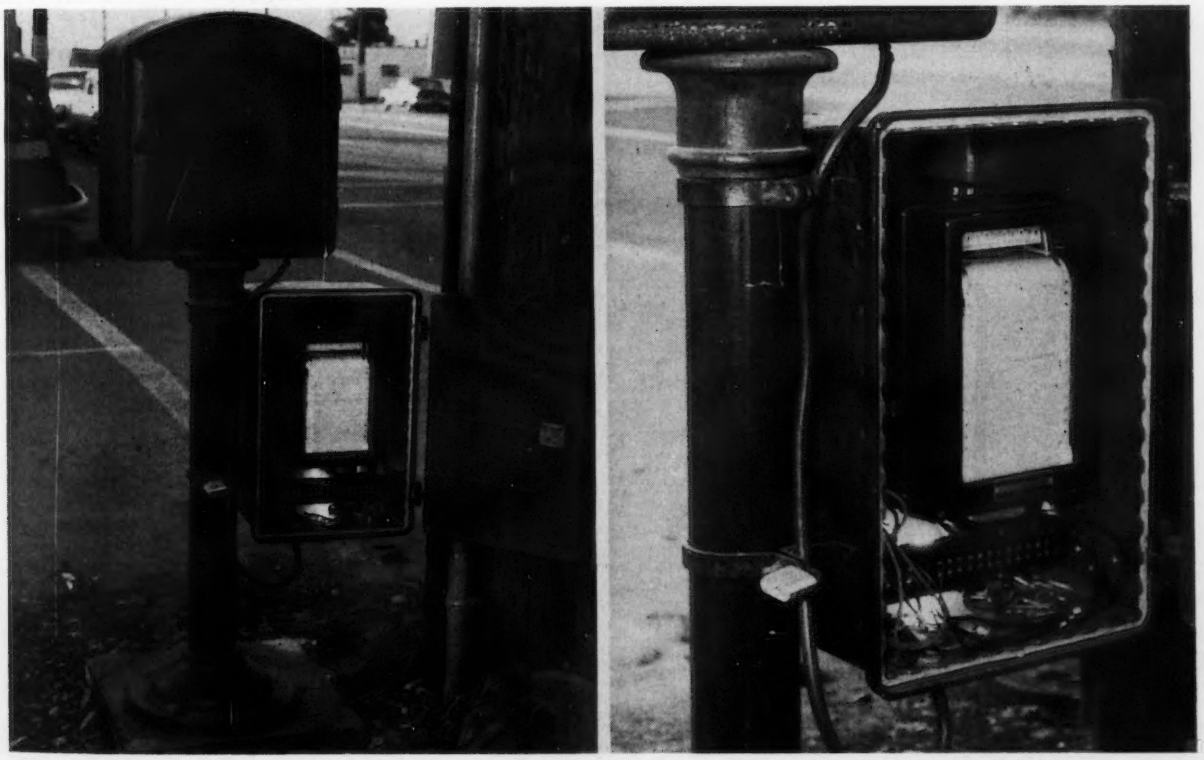


Figure 1.
Method of mounting recorder on standard control pedestal. Light bulb is used in box to act as heater unit during cold weather. Drain hole in bottom of control cabinet is used for wire entrance The right photograph is a closeup of the mounting clamps.

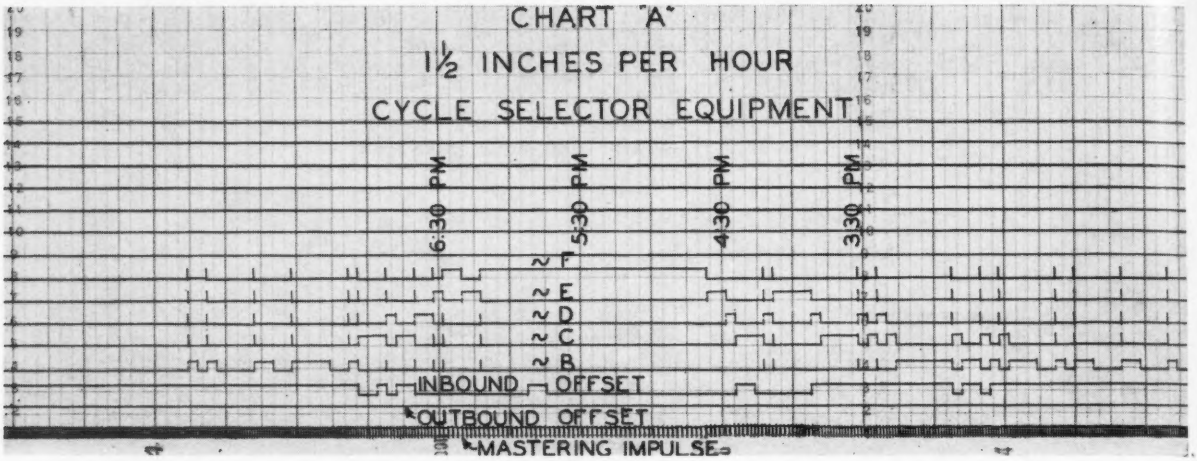


Figure 2.
(Chart A). The above chart is an illustration of the recording of the functions of a cycle computer.

C. Which offset is in operation
D. Operation of fire alarm circuit
E. Operation of pushbuttons
F. Operation of any signal circuit

II. With Traffic-Actuated Equipment
A. Interconnected systems
1. Offset in operation
2. Background cycle
3. Green time on B or C phases
4. Pushbutton operation
5. Detector operation
6. Operation of special features
B. Independent operation
1. Green, red or amber time on any phase
2. Developed cycle
3. Detections on any phase
4. Pushbutton operation
5. Operation of special features

The chart provides not only the information that a circuit was in operation but also the amount of time devoted to that circuit. In the detector circuits the number of vehicles, depending on the chart speed, can be tabulated.

Chart A is an illustration of the recording of the functions of a cycle-computer. The various functions are labeled on the chart. The cycle lengths vary from Cycle B of 60 seconds to Cycle F of 100 seconds. As any cycle is transmitted by the equipment, the pen for that cycle will move from the guide line. Where both of the offset pens are in the "on" position, it is an indication that the traffic volumes in both directions are fairly equal and an "average" progression is in effect.

Chart B is that of a pushbutton operated signal where a faulty relay caused intermittent operation.

The pattern of pushbutton actuations alone would indicate there was faulty operation. If one looks at the repeated actuations of the pushbutton when the signal failed to change, one can almost hear the comments of the pedestrians.

Charts C, D and E are all of the same location for illustration of the effect of chart speed on the recording of vehicle actuations. The intersection is controlled by a volume-density control with non-directional pressure detectors in each approach. The detectors are 8 feet long and each covers two lanes.

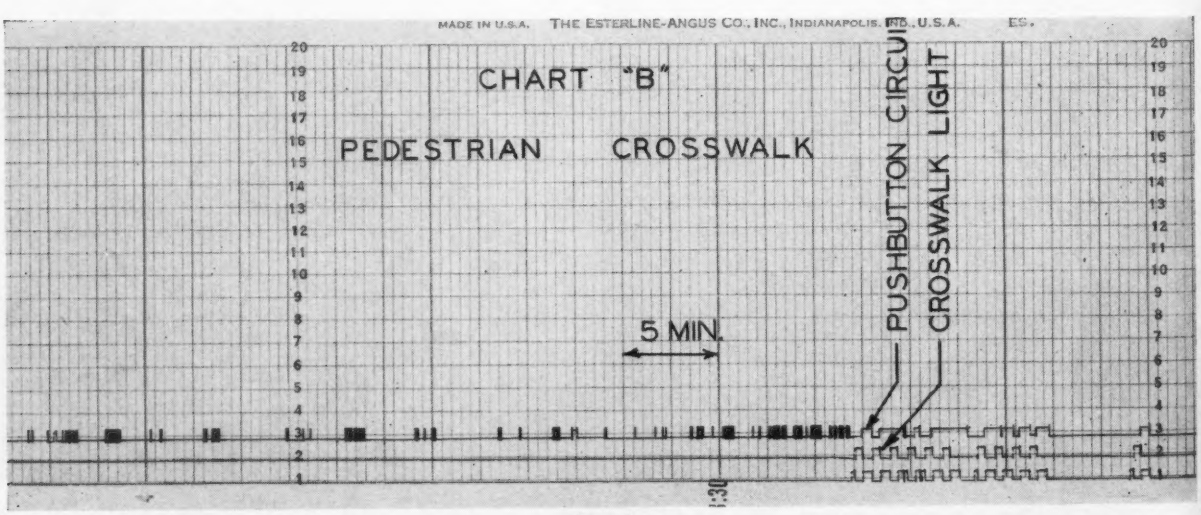
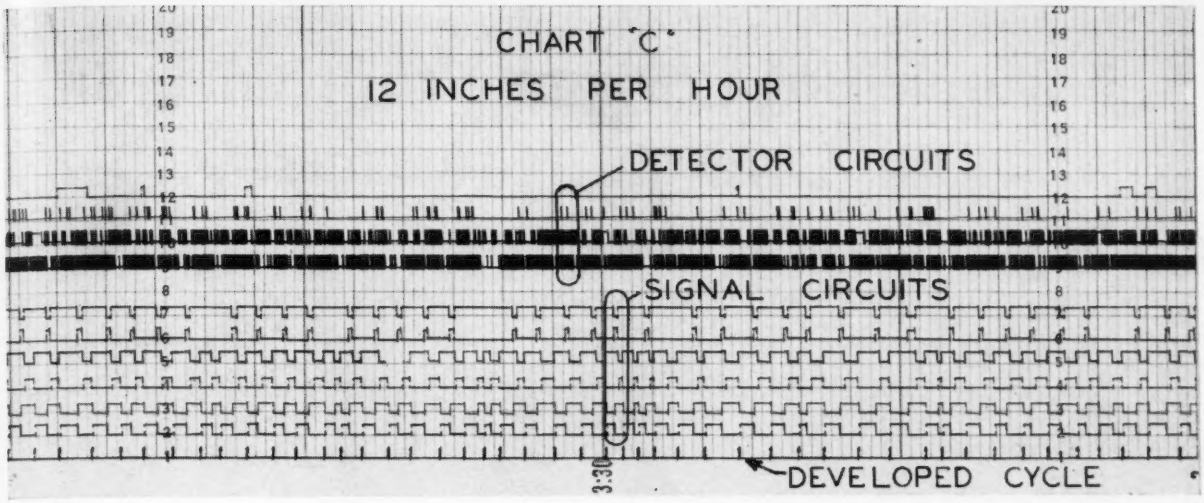
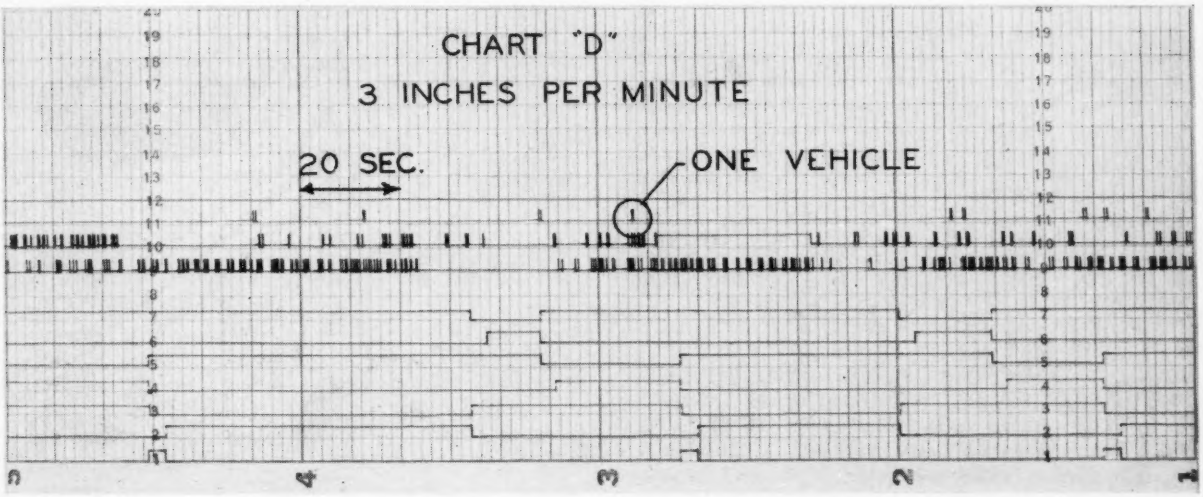


Figure 3.
(Chart B). Chart B indicates the recording of a push-button operated signal where a faulty relay caused intermittent operation.





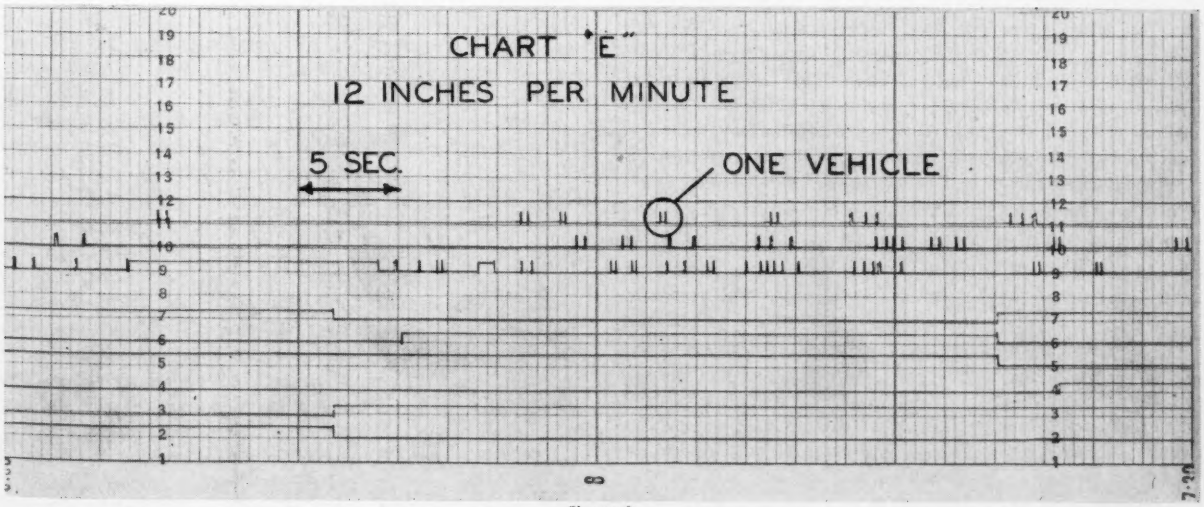


Figure 4.
(Charts C, D, & E). Charts C, D, and E are all of the same location for illustration of the effect of chart speed on the recording of vehicle actuations.

(Continued on page 340)

Municipal Parking Program in East Orange, New Jersey

By Abram Simoff (Jun. Mem., ITE)
City Traffic Engineer, East Orange, New Jersey

ACCOMPLISHING THE NEED for offstreet parking during a period of two years, which originally should have been accomplished over a period of twenty years, is a substantial project. The City of East Orange is presently involved in a tremendous offstreet parking program which will involve an expenditure of over two million dollars within a two year period.

As of a year ago, East Orange did not have any city offstreet parking facilities available in our community of over 82,000 people. Our governing body was conscious that if we did not compete with our suburban areas in furnishing parking, the tendency would be for business to move further out towards the rural areas. This would have a devastating effect on our business centers as well as the over-all economy of The City of East Orange.

With the help of the American Automobile Association, a survey was conducted to determine the need for parking in our main business areas. This survey, which involved the location and extent of existing private off-street parking facilities, duration of curb parking, number of vehicles parked, and space hours consumed, indicated that a minimum of 1500 offstreet parking stalls would be needed in order to meet the parking demand. After determining the exact needs and locations for proposed offstreet parking areas, a report was submitted by the Traffic Division to the Mayor and City Council, making certain recommendations for a municipal offstreet parking program. This report aided in the organizing of a Parking and Traffic Committee, consisting of three members of our governing body, the City Engineer, and the Traffic Engineer. All the activities involving parking must pass through this committee for their consideration and approval. The point has not been reached where a Parking Authority or a Parking Commission is a necessity. Perhaps as parking interests are increased throughout the community, it will generate a direct need for either a Parking Authority or some other controlling body.

Actually, offstreet parking should be a direct concern of private enterprise in order to stabilize business interests; however, because of the lack of initiative and inability to condemn, private enterprise has not been able to reach a scope which would satisfy our offstreet parking demand in our business areas; consequently, it has been the City's responsibility to the tax payer, to establish an offstreet parking program in order to stabilize rates and increase assessments after benefiting improvements had been established for the property owner.

The first attempt in the parking program, was the construction of the municipal offstreet parking lot in the Civic Center Area. At present, the lot accommodates 80 vehicles and we are expanding this facility to accommodate an additional 22 vehicles. This parking lot serves a twofold purpose; a portion of the area is reserved for City Hall employees during office hours, and the remaining spaces are used for commercial purposes and are controlled by parking meters. Over-night parking at the metered spaces is encouraged because we do not allow overnight parking on city streets. So far this complex arrangement has worked out quite successfully with a minimum amount of conflict between daytime and evening parking.

Figure 1.
The Brick Church parking area is one of the many municipal offstreet parking areas being developed in East Orange. This area with a capacity of 177 vehicles is illuminated with 10- 400 Watt Mercury Vapor Lamps, each lamp having an illumination out-put of 19,000 lumins.

The next attempt was the expenditure of $450,000 to develop an off-street parking lot in the Brick Church Area. (See Figure 1.) This area is directly to the rear of our business houses, and facilitates rear door loading, customer entrance and garbage removal. This facility accommodates 177 vehicles and provides entrance and exit to three streets. The successful operation to date can be largely attributed to the easy walking distance to the neighboring business establishments. Also planned for our Brick Church area are two additional short-time shopper lots as well as an area for all-day office and commercial parking. The two additional shopping lots will accommodate 280 vehicles. Already a parcel for one of these areas, which the merchants have been operating, has been acquired. The merchants realize that by selling these lands to the City at a reasonable figure it will initiate additional purchases by the City in order to expand the facility. At present the process of negotiating with property owners in order to expand this facility from 55 vehicles to a capacity of 160 vehicles is underway. The other shopper parking area in this district which is located north of Main Street will accommodate approximately 120 vehicles. The all-

Figure 2.
Demolition of many buildings was necessary to provide offstreet parking within walking distance of the downtown area.

day parking area under investigation should accommodate approximately 100 vehicles within this district. The parking program in our Brick Church area has also pioneered business interests to develop their own parcels for customer parking. This has already initiated one parking area, which can accommodate 50 vehicles and another area accommodating 175 vehicles will be developed this year. Not only are the business people in our Brick Church area expending funds for advertisement of the lot, but the City is taking advantage of this improvement in order to advertise the fact that we in East Orange are now parking conscious. Fortunately, East Orange is located in the heart of Essex County, New Jersey, and the new Garden State Parkway runs directly through the center of our community in a north-south direction for a length of approximately two and one-half miles. All of our business areas are readibly accessible to this super highway; therefore, it is conceivable that our business interests are not only inviting our 82,000 residents but they are inviting some 3,000,000 people within a twenty minute riding time.

Another main business area is the Central Avenue Area. Recently, an ordinance was passed appropriating $275,000 which will initiate a municipal offstreet parking plan. This area was selected after lengthy investigations were conducted in field and office studies. Further studies indicated that approximately thirteen properties would be involved in this improvement, and in some cases the power of Eminent Domain would have to be exercised. (See Figure 2.) These properties are directly to the rear of our main business houses providing space for 175 vehicles and entrance and exit to two streets. In this case our parking area is planned in conjunction with a major street improvement, which calls for the widening of an adjoining street from 28′ in width to a 56′ width. In effect this improvement will connect our Brick Church business area with our present Central Avenue business area in conformance with our master plan, which calls for the re-zoning of this connecting street from residential to a business zone.

We are also concerned with parking in the secondary business district and we have presently negotiated an agreement with the Board of Education for a parcel of land which will be used for commercial parking. Along with this, we are entering a lease arrangement with one property owner who already has inadequate parking to the rear of his store. Again we will take over a facility which will accommodate 65 vehicles and expand this facility to a capacity of 175 vehicle spaces. Another smaller area which is threatened by a critical traffic congestion problem is also scheduled to receive offstreet parking relief. We plan to establish a 38 vehicle parking lot with the thought in mind of restricting the curb

parking spaces for traffic flow; therefore, by taking 20 spaces off the street in order to facilitate the proper movement of traffic, we are replacing a more suitable parking facility which will be easily accessible due to this elimination of traffic congestion.

It has become recognized that it is a distinctive consideration that business houses have a minimum depth for further expansion. In many cases we reach a long term lease of lands at a nominal fee rather than outright purchase. This way not only is it cheaper to the City, but it leaves the door open for the expansion of business properties. Whenever such an expansion is deemed necessary by the property owner, he has the option to re-capture said lands for building only, within a reasonable period. This type of an arrangement serves a twofold purpose; it allows the City to control the property directly to the rear of the existing business houses, and allows the property owner to expand his property interests when necessary. We are also interested in offering customer entrance convenience and the elimination of maintenance by the property owner on lands bounding the parking area. This policy defeats the possibility of a "litter" condition adjacent to the parking lot. In order to acquire desirable property within a realistic walking distance the property acquisition expenditures must be quite high. In our way of thinking, this is by far a better policy than acquiring lands at a greater distance without any substantial guarantee of parking success. After improvement, it is a noted fact that within this built-up area people are hesitant to walk more than two hundred or three hundred feet to a business property; therefore, all of our recommendations are defined within the concentrated center of our business districts. The potentials for even further business development is concentrated in this built-up area. We realize that parking facilities are of the utmost necessity in order to develop our business interests. It is also realized that accessibility is an over-all consideration in many off-street parking ventures. We presently have the Garden State Parkway drawing business potential from a North-South direction. The future holds for an East-West Freeway, which will bisect our municipality in an East-West direction, making East Orange even more accessible. Our community is being made the core of a net of super highway development. Within the City, East Orange competes with adequate municipal parking.

A unique development has been established for our off-street parking program. Everything involving our parking areas will be handled by the Traffic Division of the City of East Orange. This means that after improvement, design, parking meter collections, maintenance, as well as enforcement, will be handled by the Traffic Engineers Office. This policy deviates from the enforcement of our meters at our curb spaces. In this case the Police Department has jurisdiction; therefore, we are starting a definite trend concerning enforcement which could probably lead to the overall meter enforcement by the Traffic Division. Also, our Parking & Traffic Committee is presently coordinating their efforts with our Legal Department in order to resolve all of the control problems on our parking areas through a municipal parking lot ordinance. This ordinance is to establish regulations for the use and operation of municipal parking lots, fixing fees for the parking thereof, and provide penalties for violations of said regulations. This ordinance will apply to all of the lots and will make it possible to resolve separate provisions by means of amendments.

"PEN-POINTING" TRAFFIC SIGNAL TROUBLES

(Continued from page 337)

At the higher chart speeds each axle of a vehicle may be counted. If a radar or magnetic detector were used instead of the pressure detectors, each vehicle would provide only one actuation of the pen. Multi-lane streets, of course, would require separate detectors for accurate counting.

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At the 3/4 inch per minute feed, a chart lasts for 26 2/3 hours. The charts do not have time indications. Each minor division is 1/8 inch, or 10 seconds. At this speed, however, a spring-wound recorder must be rewound every three to four hours, whereas an electric drive would provide continuous operation. At this speed vehicle headways of 2 to 3 seconds would be sufficiently separated to permit individual tabulation. The higher chart speeds would provide even greater separation of divisions. As the recorder can operate at the rate of 10 separate actuations per second, quite accurate tabulation is possible.

The primary reason the Seattle Traffic Engineering Division acquired the Esterline-Angus operational recorder was for the detection of intermittent malfunctions of traffic signal controls. In this respect the recorder has proved invaluable. Any deviation from normal operation is readily apparent and a considerable saving has been realized in the time of the servicemen and the engineering personnel. The value of the use of the recorder for signal studies and vehicle counting was quickly realized and much valuable information has been gained through its use. As the information furnished by the recorder is in a permanent graphic form, very little tabulation is necessary to complete a study. The use of this recorder has been found to be a profitable investment in traffic signal work.

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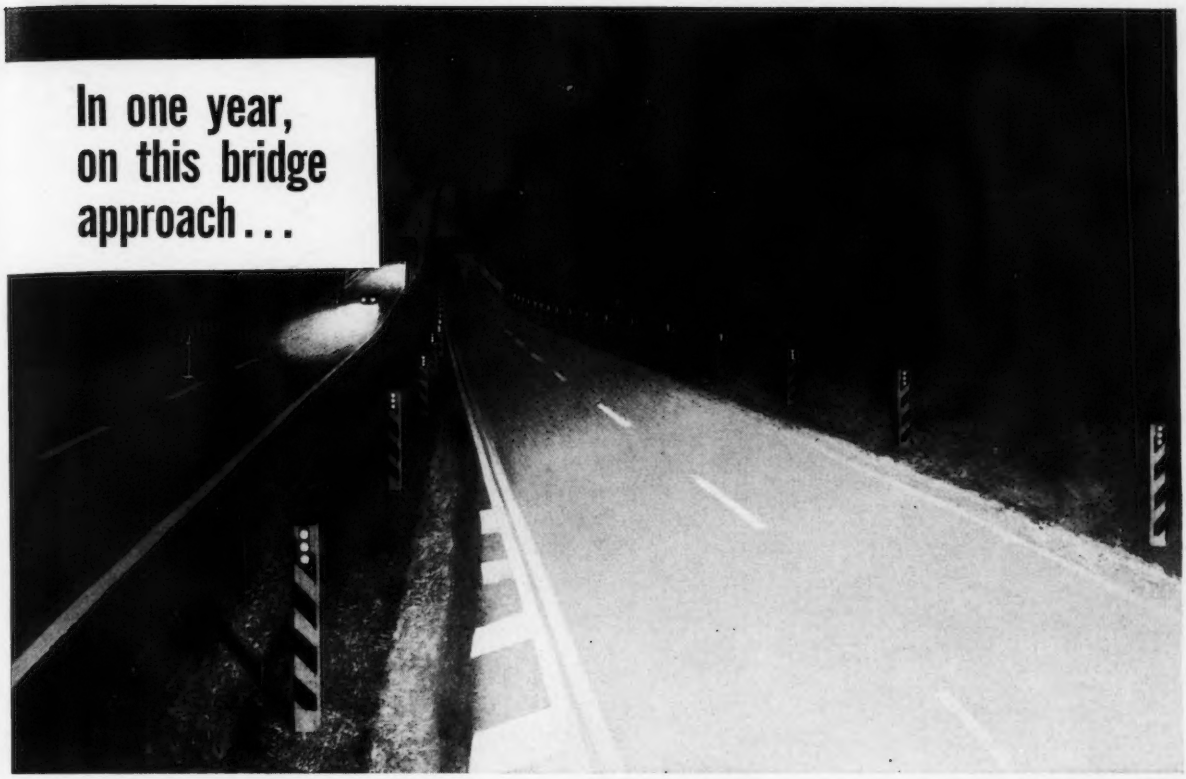

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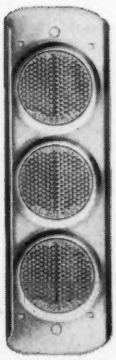

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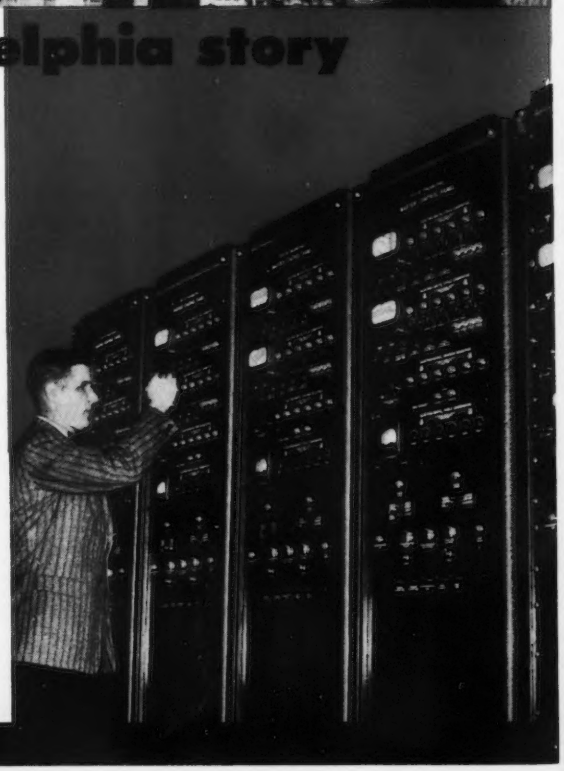

AUTOMATIC SIGNAL DIVISION

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Integrating Urban Expressway Planning Efforts

By Howard S. Lapin (Jun. Mem., ITE)
Research Associate, Institute for Urban Studies,
University of Pennsylvania, Philadelphia

WIDE NEW EXPRESSWAYS and aging skyscrapers appear as dominant features of the present urban scene. These symbols of our steel-and-concrete age represent upper limits in the physical scale set by structures in our major cities. The skyscraper may already have seen its peak development insofar as height is concerned, but mileages of urban expressways are continuing to increase with each recent year, and an accelerated program of expressway construction, in urban as well as rural areas, is in the offing. Several measures to provide Federal grant-in-aid funds for the needed heavy investments in free-flowing traffic facilities are under consideration in Congress.

Expressways in cities bring with them problems which tend to transcend in scope the areas covered by the several groups of professionals involved. Particularly preceding a major construction program, the time seems ripe for a review of the work of the technicians directly concerned with the provision of expressways from the point of view of greater integration of their respective efforts.

This article considers the goals and methods of the technicians concerned: the common ground between them and the need for coordination of their work. Further, it outlines some problems requiring further study and which appear solvable only through joint effort of engineers and planners.

Engineering Criteria

Highway engineers are concerned with problems of providing access for private and public automotive vehicles into, through, around, and between cities.(1) Free-Flowing radial routes within cities and distributor "loops" around central districts are becoming to an increasing extent the subject of study and design of highway builders. Other than those of quantitative and geometric design, some of the general criteria guiding highway planning, traffic, and design engineers are summarized below: they are summarized from a paper by Joseph Barnett of the U. S. Bureau of Public Roads.(2)

1. Operational criteria
   Path of the individual driver (at least that in a major traffic movement) should be as direct and simple as feasible and the required actions on his part be natural. Operation should be feasible so that a driver will have a wide choice of destinations.
2. Traffic criteria
   Traffic needs must be adequately served by the facility. Traffic operation on the completed facility must be free-flowing and safe. The facility should be flexible so that it can fit into any reasonable future changes in the traffic pattern and so that it can be connected to important traffic facilities which may be provided in the future.
3. Urban planning considerations
   Service of the facility and its location should be integrated with city land use and circulation plans. Design should envision connecting the facility to a regional and interregional network of express highways.
4. Physical design considerations
   Stage construction and development of short useable sections should be practicable. Disruption of existing transit facilities, railroads, and utilities should be kept to a minimum. Important structures such as major bridges and buildings should be left intact. Cost must not be out of line with service rendered. Maintenance of the facility should be nominal. Completed facility should be pleasing in appearance.

As well as for highway engineers concerned with advance planning and detailed design, criteria in the first three sections above represent guides for traffic engineers charged with the study, expedition, and control of persons and vehicles movement throughout individual cities. Especially from the point of view of city traffic engineers, one of the above statements in a few words, covers a great amount of engineering activity: "Traffic needs must be adequately served by the facility." One point in particular bears mentioning in this regard: that feeding traffic to any expressway over city streets and distribution of traffic from a major facility involves serious engineering problems. The city traffic engineer must guarantee the value of the development by seeing that the service of supplementary local streets in the vicinity of a major facility does not become unduly absorbed by expressway traffic, to the detriment of other needed local service. At the same time, he must see that undue difficulty is not experienced in utilizing the through facility.

Factors Guiding Urban Planners

Urban planners fulfill an adivsory function within the executive branch of city government and seek to maintain a long-range, over-all view of development and physical changes in urban areas. Studying topographic features, existing utilities, transportation services, available resources and the potential of the local economy, they wish to apportion fractions of the city area for an optimum arrangement of land-occupying activities. In evolving the plan of future desirable land use, the tendency is to group similar and/or related functions and economic activities, and specifically, to prevent intrusion of industrial and commercial activities into residential areas.

The planner, considering urban development in future years, sees the city as a dynamic entity. This view may be

(1) This article does not consider the responsibilities of engineers in provision of rural roads and highways.
(2) *Express Highway Planning in Metropolitan Areas*, June 1947. Published by the U. S. Public Roads Administration, the name at the time of the Bureau of Public Roads.

illustrated by visualizing a series of aerial photographs taken at one-year intervals for twenty or more years over an urban area. Changes in land use as they occur are controlled under the zoning program so that over a period of time, confusion will be diminished and convenience for residents will be enhanced.

A major principle, (especially as the city street and highway system can be functionally classified in terms of local access streets, distributor routes, and major highways and expressways,) is that the major thoroughfares should be routed between disparate land uses and around integral residential communities. A corollary of this: the distributors should be used for access to the major routes. Thus the expressway is synthesized into a system of streets and highways and into a pattern of land use groupings. Another important factor relating to circulation is that the planner wishes to insure real choice for the traveling citizenry between the use of public and private vehicles.

The planner (like the traffic engineer) wishes to see reasonable balance in the transportation system, that public transit carries a fair part of the circulation load, that terminal parking facilities are available to match the demands of the private vehicular traffic which can move efficiently into and within the central area.

No less than the engineer, the planner is concerned with the appearance of the expressway as a structure, and with its possible noise and effects of fumes on city residents. He wishes to see minimum discomfiture caused by destruction of existng structures, and when razing is mandatory, he attempts to route the cleared swath through older and more blighted sections of the city.

Since land patterns of the city plan are determined from studies of anticipated and/or optimum population densities and based on the land requirements of healthy commerce and industry to sustain this population, the planner wants to be sure that expressway access points serve present and anticipated centers of traffic generation. In between interchanges, he wants to insure an adequate number of grade-separated crossings of the expressway for the benefit of cross-traffic. Aims of planners in regard to physical circulation of traffic usually coincide, as in the instance concerning grade-separated crossings, with those of city traffic engineers.

In general, the planner wants to avoid harmful changes of land values, through stabilization of land use patterns. However, he considers an expressway a possible tool to promote some changes in land use; these desirable changes can include development of vacant suburban land in conformity with the land use plan. Undesirable change in land use can result from location of industrial plants and intrusion of industrial traffic into residential areas. Here a particularly valuable service of the expressway can be the clear separation of designated residential from industrial areas with the consequent diversion of industrial traffic.

Common Ground

The discussion above may tend to give an impression of disparate or only partially tangential professional approaches to the development of urban areas. Actually, the common concern of engineers and planners for the location and provision of urban trafficways has a number of features of close relationship.

From one viewpoint, an urban expressway can be seen as an important tool of city planning. It serves as a buffer strip, hence where it is desirable, for example, to separate residential from industrial uses, an expressway can be made to serve a purpose related to concerns of city planning other than circulation. The provision of suitable landscaping along the right-of-way may increase its value in this respect. Additionally, the residential access function of local streets is strengthened by the diversion of through traffic around more or less integral neighborhoods.

Additional mutual benefits between expressways and the areas served are these: In the area served by the through facility, land use planning and its effectuation by zoning can function as a control over traffic generation, hence, may prolong the service life of the facility under the conditions for which it was designed. At the same time, in built-up areas, the expressway more firmly delineates the form of the residential neighborhoods it serves. Forces for change and for stabilization of land uses have been discussed above.

The length of planning or forecast period selected may influence alternatives selected in urban transportation development, hence planners and engineers may differ in their conclusions. On the other hand, forecasting of traffic volumes for ten- or fifteen-year periods may be aided by knowledge of longer-range land use assumptions and plans. Another advantage of joint planning: where traffic planning is synthesized with long-range land use planning, it may be found more feasible to acquire highway rights-of-way considerably in advance of need in order to save on costs.

Need for adequate circulation facilities has meaning to most urban residents, and carries potential to stir the imagination of the public: for example, land use, population and employment studies, of value as basic materials in urban planning as well as in special transportation surveys, have been supported in connection with the requirements for comprehensive survey of transportation requirements.

The Need for Coordination Among Technicians

Lack of coordination and sharing of information among highway officials and other technicians serving particular cities seems to underlie some of the criticisms concerning the provision of expressways in or near urban areas. Apparently, there has been high-handedness on the part of some state officials, particularly in dealings with representatives of smaller towns: there is the example of an official of a major turnpike commission expressing dismay over a court order requiring advance coordination with officials of municipalities served by the route. However, local representatives may also be to blame in some instances of failure of communication. Where local agencies do not reach compatible decisions the solution of a given circulation problem may be left to highway officials by default.

This stoppage of information flow is a kind of fault, it seems clear, which can be remedied. From the point of view of the highway agency, one way to improve planning coordination is to employ a liaison official to deal with local personnel in the problems of urban expressway planning. Coordination among local agencies may be effectively developed by means of metropolitan or regional planning agencies or special transportation boards or authorities. Where liaison officials are not employed by the highway agencies, the local governments can provide such an official whether or not a local coordinating agency has been formed. The above touches only lightly on means for improving levels of cooperation, but should indicate the possibilities.

Joint effort is further required in considering other criticisms of urban expressways. Critical judgment is not to be ignored — but to be studied for whatever may lead to constructive changes in past practices. The questions which have

been raised are such as to require the joint efforts of engineers and planners in arriving at possible answers.

Problems Requiring Joint Study

The urban expressway is a transportation facility, of increasingly wide application, and of apparently growing acceptance. The principal function of the facility is to provide free-flowing access among the various parts of the city and circulation into and through the urban area. In doing these things, the expressway drains local streets and limited arterials of through traffic. This type of highway, with its great scale, multi-level interchanges and widesweeping ingress and egress roads, presents an awesome vista to most observers, and to some, additionally, appears as an expanse of regrettable public expenditure. It is to be expected that these costly and extensive transportation structures, which have such a great effect on the appearance and functioning of the city, should occasion a wide variety of viewpoints.

Not all criticisms have been leveled at one time, not by one person or about one city. In fairness, it should be accepted that there has been validity for some criticism, similarly that there has been reason for some past errors. In terms of the short operating experience with major expressways, the great numbers of variables concerned in providing an urban circulation system, difficulties of forecasting the events of the past decade, defection of the public from mass transit,(3) and the not infrequent lack of communication among related professional groups mentioned above—with all these factors it is not surprising that optimal long-range solutions might not have been found in all cases.

In the instances where criticism has occurred it should not be ignored especially at this time when a major expressway construction program in urban areas may be near at hand. These viewpoints should be reviewed for their maximum constructive value. The review would best be carried on by joint committees of engineers and planners.

Some of the problems which might be studied include the following:

How can the expressway best be used as a positive element in the city plan in relation to existing land use? And how can it be designed and located so as to minimize the isolating or separating effects?

How can the potential of adjacent land best be realized in the location of the expressway? For instance, what is the desirable spacing between an expressway and a railroad so as to maximize the industrial possibilities of the intervening land area? What policy should be employed in relation to acquisition of rights-of-way from lands, such as public parks, already in the public domain?

What of the criticisms that the radial expressway creates as many new problems as those it solves — that it facilitates formless suburban spread, and generates sufficient new traffic to minimize its congestion-relieving effects? These are difficult to answer. It should be recognized that the *demand* for outlying residential locations is not generated by the new highway facilities; this demand is based on the desire for the new family living accommodations presently available in low-density suburban residential tracts. Thus the highways follow rather than lead the patterns of peripheral urban growth.

But in the criticism of the radial expressway as a generator of additional problems, we find one of the most difficult parts of the urban transportation problem.

How are we to be assured of the long-term value of the expressway facilities as new traffic is generated with each passing year? Is the answer to be found in construction of additional, parallel facilities, or multi-level highways? Is the improvement or provision of rapid rail or bus transit a part of the same problem of planning facilities which will not reach saturation within a few years after completion? Facilities to enhance flow do generate additional traffic, but does this mean that free-flowing facilities should not be constructed? Should the systems of radial expressways in Los Angeles County, for instance, not have been built? Considering the status of trans-county circulation prior to completion of the facilities, a negative answer does not seem likely. But now, as the volumes on parts of this expressway system have reached the point where saturation must be considered, what is the next step?

In the New York metropolitan region, is there an endpoint to the number of trans-river routes which should be built to bring rubber-tired vehicles into Manhattan? Answers to the several questions above depend on assessment of the convenient, the economic, the saturated, and the attainable levels of centralization and density of urban space-using functions, and on corollary effects of each alternative. No direct answer is provided simply but the stakes are high and, this type of urban development problem does not seem near solution in specific instances.

Conclusion

In the past, solution of urban transportation problems in terms of construction of expressways and other circulation facilities has been made immensely difficult by the physical scale of the problem area which must be considered, and by rapid changes in factors of size of population, extent of vehicle-ownership and transit riding-habit, and by rapid changes in intra-urban travel desires. In view of this difficulty, it is necessary that the technicians concerned minimize the frictions hindering solution of urban transportation problems just as they attempt to reduce the physical frictions of urban circulation itself.

Consensus through joint problem-solving efforts should be sought among interested groups before critical traffic "saturation" occurs. Remedial planning of urban transportation as a part of urban development should be the subject of joint, concentrated effort so that characteristics of vehicular traffic generation and circulation, use of transit services, and need for increased terminal parking facilities in a particular central area may be considered as parts of the same general problem. Means for this approach to solve the difficulties resides in improvement of permanent channels of communication among local and other officials, and in coordination of effort in a formal transportation agency or area planning agency of local sponsorship. Another means of coordinated effort may be found in the professional societies. Hind-sight analyses of the benefits and disadvantages of particular urban expressway routings by joint committees of the professional groups concerned would appear to be one way to increase understanding, and might provide useful guide-points for future work.

The professional fields of engineering and planning have many points of tangency. Establishment of permanent procedures for joint effort are necessary in providing for future development of our urban areas and for the systems of circulation which serve them.

(3) The defection from mass transit is not altogether an impartial "economic vote," it is granted, being conditioned by the availability of varying qualities of transit service, but in the larger picture the poor transit service seems to be a reflection of public taste for personal, flexible transportation.

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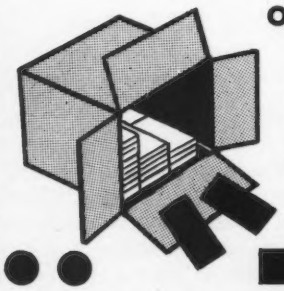

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Characteristics of a Commuter's Garage

by R. H. Burrage (Assoc. Mem., ITE)

Head, Terminal Facilities Unit, U. S. Bureau of Public Roads, Washington, D. C.

(This report was presented at the January, 1956 meeting of the Parking Project Committee of the Highway Research Board.)

THE PURPOSE OF THIS PAPER IS (1) to present an analysis of the parking characteristics of a commuters' or workers' garage as a demonstration of how widely its characteristics differ from those of the usual central business district garage and (2) to make some observations on the matter of "discounting" the theoretical capacity of parking facilities when evaluating supply and demand.

The majority of downtown parking lots and garages may be considered as "general service" facilities, in that they cater to short and long-time parkers, to shoppers and workers, to anyone who is willing to pay the charge. Some facilities, particularly those in the retail districts, endeavor through their rate mechanism, to restrict their patronage to shoppers and other short-time parkers and so induce a higher turnover. Others, towards the fringe of the district or less favorably located, depend largely upon the long time parker and set their rates accordingly.

The type of facility used has an influence on the parking duration, or, from another point of view, the expected duration influences the choice of type of facility. Similarly, the parking duration is influenced by the size of the city. It takes longer to get downtown in the larger cities, and to find a parking place, so that the tendency is to make fewer trips and to stay longer on the trips taken. (See Table I).

TABLE I*

Average length of time parked at various types of facilities

Population Group [1]	Number of cities	Length of time parked, in hours at Curb	Lots	Garages	Off-street	All Spaces	Turnover
5,000-25,000	17	0.9	2.1	5.2	2.2	1.1	4.3
25,000-50,000	15	1.0	2.5	4.3	2.6	1.2	4.1
50,000-100,000	5	1.1	2.5	5.1	2.7	1.4	4.0
100,000-250,000	12	1.0	3.2	4.9	3.5	1.6	3.3
250,000-500,000	8	1.1	3.7	4.5	3.9	2.1	2.6
500,000-1,000,000	5	1.0	4.0	4.5	4.4	2.1	2.9
Over 1,000,000	3	1.3	4.5	4.6	4.5	2.9	2.0
	65						

*From data published by the Bureau of Public Roads 1/1950 urbanized area population

In every population group the average duration in lots exceeds that at curbs; most curb spaces have time restrictions. The average duration at garages is still larger, perhaps because of the general feeling that garages give slower service and are more expensive than lots. The average durations tend to increase as the city grows, particularly so at the lots, and as a consequence the average turnover in the large cities is only half that in the smaller cities.

The times and rates of arrival, the parking durations, and the turnover all play important parts in the operation of a facility as does the method of operation, i.e., whether the parking is done by attendants, by the parkers themselves, or mechanically. A lot or garage where parkers arrive at a reasonably uniform rate throughout the day has a very different problem, as to reservoir space and number of attendants needed, from a facility where the arrivals are apt to be highly concentrated.

The Battery Garage, located in downtown Manhattan, adjacent to the Brooklyn-Battery vehicular tunnel and to the Wall Street financial area, offers an opportunity to observe the characteristics of a facility serving primarily long-time parkers. The garage is owned by the Triborough Bridge and Tunnel Authority, is operated by the Socony Vacuum Oil Company, and has been operating at capacity since its opening in 1950. Figure 1 is a general view of the structure, Figure 2 shows the ground floor layout, and Figure 3 a typical floor plan.

The garage has eight parking levels including the roof and, including all ground floor reservoir and service areas, has a capacity of 1,100 cars, using one-deep self parking, one-way ramps and one-way aisles. The gross area per space is about 350 square feet.

The policy has been established by the Triborough Authority that the facility must not be entirely reserved for the steady or monthly-rate patron and that a substantial portion must be available for transients. The 2nd, 3rd, 4th and 5th floors are assigned to 593 monthly parkers, leaving a transient capacity on the three upper levels and the ground floor of 507 spaces, which are usually filled by about 9 a.m. In the peak hour of arrivals, which is about 8-9 a.m., transients are given a time check (which is usually prestamped, because of the high rate of arrival, with a ten-minute grace allowance). The result is a very rapid rate of arrival and processing, with a negligible need for reservoir space. Monthly parkers use the outside entrance lane (Figure 2), carry a distinguishing window tag, and require no attention. The effective reservoir is only about eight spaces for the morning surge of transients, and backups have been very rare.

The upper three levels, used by transients, are filled in sequence; two or three attendants start on the sixth level and direct cars into spaces, one row at a time until that level is full, then proceed to the seventh level and finally the roof. When the roof is full, an inventory is made of vacant transient and monthly spaces and this is telephoned to the entrance checker, who then assigns parkers to specific numbered spaces. This slows down the checking in process, but usually this

Figure 1.
Battery Garage, New York City.

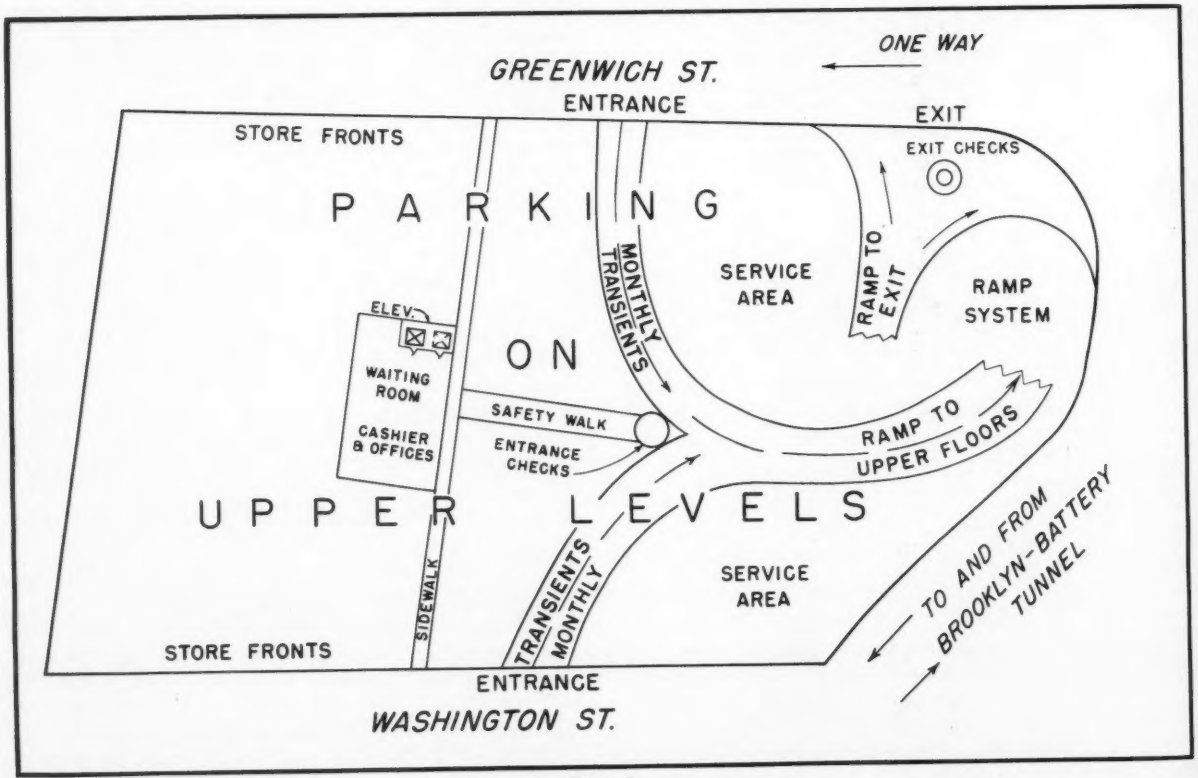

Figure 2.
Ground floor layout, Battery Garage.

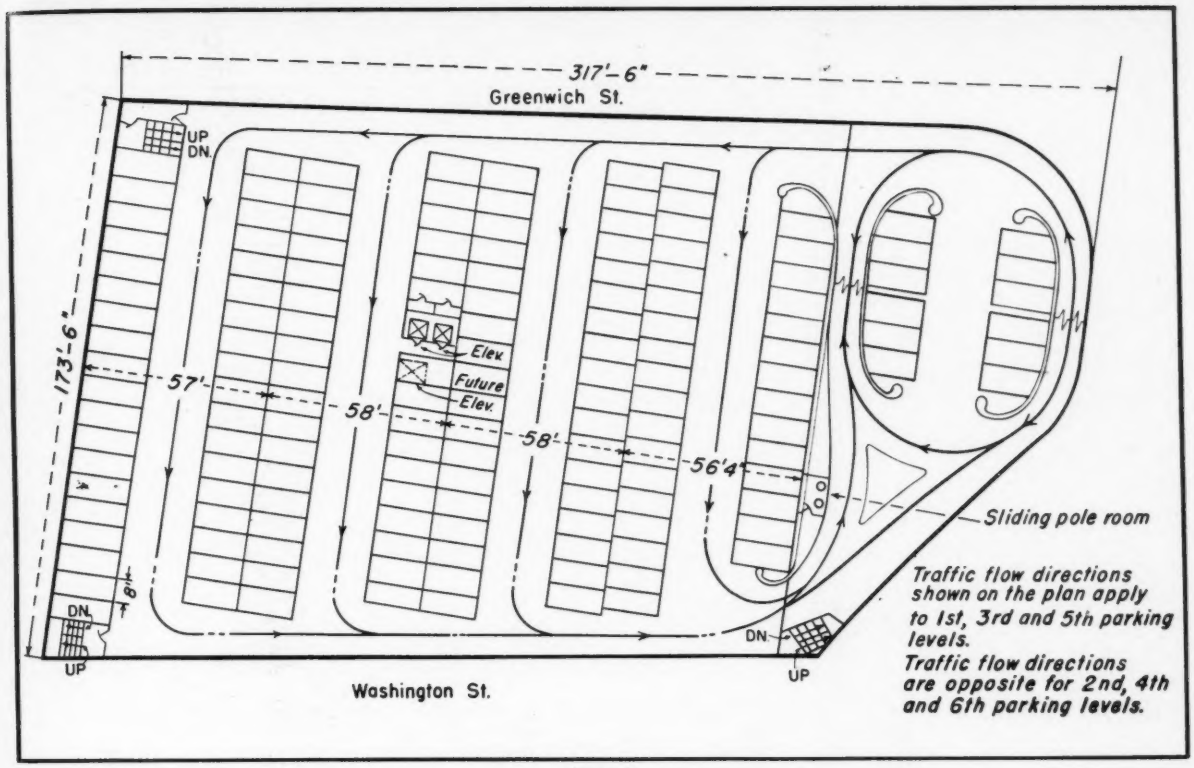

Figure 3.
Typical floor plan, Battery Garage.

occurs after the peak of the morning rush, and does not cause serious backups.

The transient rates are:

1st hour, 50 cents—Each additional hour or part, 25 cents
Maximum day (8 a.m.-6 p.m.) $1.25

After 6 p.m., the rates are:

A flat 50 cents for any period up to 7 hours, then 15 cents per additional hour to 8 a.m.
Maximum night charge (6 p.m.-8 a.m.), $1.00

Monthly rates

Day storage $30.00, 24-hour storage $35.00, night storage $25.00. These include "in and out" service or the right to a space at any time during the period.
There are currently no overnight monthlies.

Observations were made of the autos entering and leaving the Battery Garage on a week day in June 1955. Analysis of the data showed that the arrival rate for *transient* parkers was:

a.m.		p.m.	
5-7	16	12-1	25
7-8	135	1-2	18
8-9	324	2-3	16
9-10	96	3-4	18
10-11	16	4-5	13
11-12	22	5-6	7
		6-12	2
			708

The peak hour for transient arrivals was 7:45 a.m.-8:45 a.m., and during that hour, transient parkers were counted, as follows:

7:45-7:59	79
8:00-8:14	69
8:15-8:29	125
8:30-8:45	104
Total	377

Monthly rate parkers were recorded only between 8:00 a.m. and 9:00 a.m., the count being:

	Transients	Monthlies	Total
8:00-8:14	69	34	103
8:15-8:29	125	17	142
8:30-8:44	104	43	147
8:45-8:59	26	91	117
	324	185	509

The monthly-rate parkers, having windshield stickers and using a separate lane, required no attention, other than one attendant on each of the four levels reserved for them. The transient parkers, with a peak-hour rate of one every 9.5 seconds and a peak-15-minute rate of one every 7.2 seconds, were processed through the entrance by three attendants and directed into stalls by three attendants on the upper levels, with no backups of consequence.

The parking layout (Figure 3) provided stalls only 8 feet wide at 90° to aisles 22 feet wide. Wider stalls should definitely be provided for self-parking, but it must be borne in mind that (1) all the monthly-rate parkers and most of the transients at this garage are regular daily patrons and hence experienced, and that (2) the great bulk of the spaces are filled successively, a much simpler operation.

The garage was designed to accommodate self-parking, attendant-parking, or a combination of the two. If used for attendant parking, the capacity could be increased from

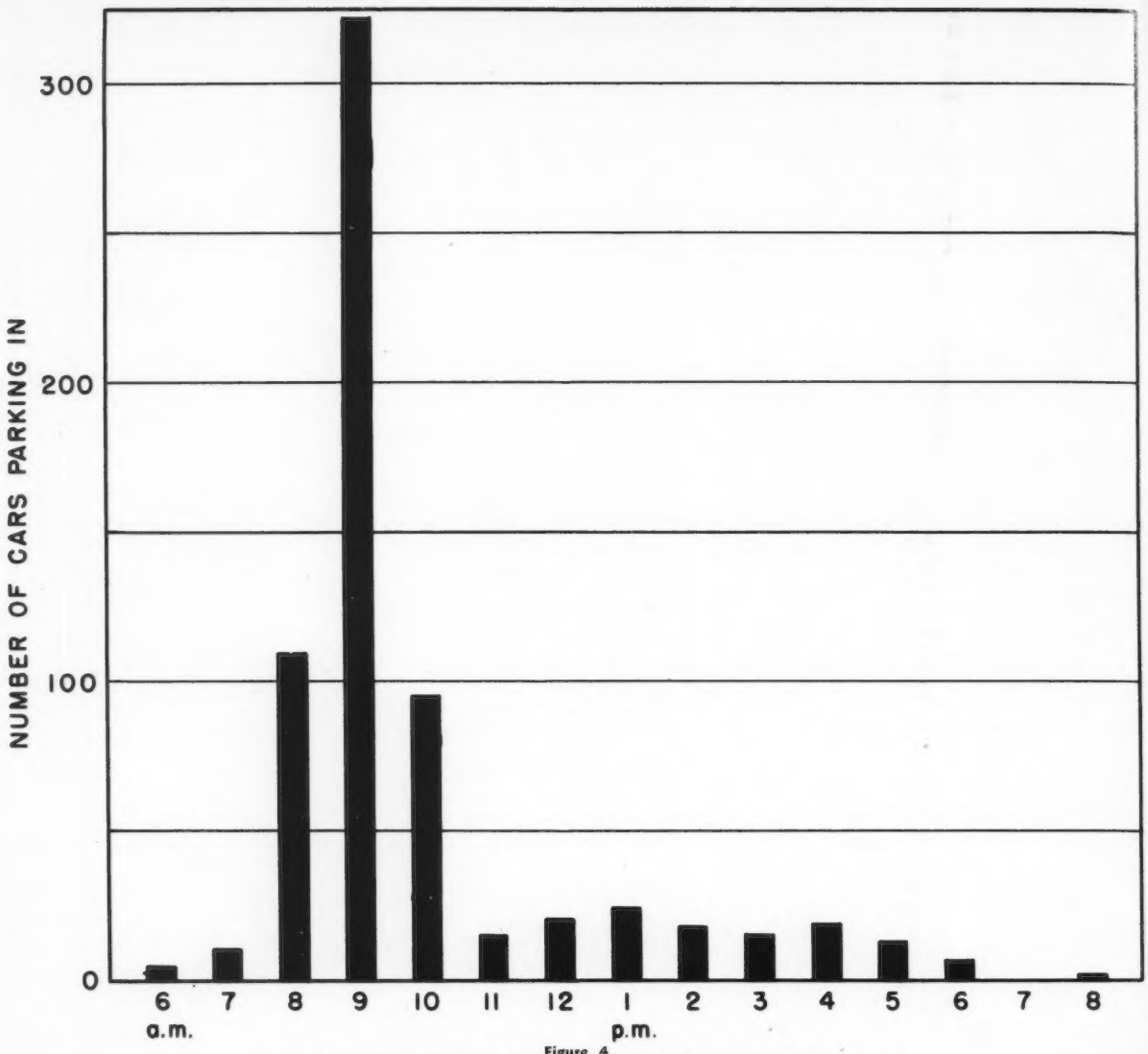

Figure 4.
Arrival of transient parkers at Battery Garage, Wednesday, June 29, 1955.

1,100 to about 1,500 by shifting the aisles and parking two-deep.

It is of interest, therefore, to consider what the situation might be if full attendant parking were to be used with the present type of patronage. Under "full attendant parking," the parker releases his car to an attendant at the street-level reception point. Figure 4 shows graphically the hourly arrivals of transient parkers and Figure 5 shows their accumulation. 81 percent of the day's total arrived before 10 a.m., filling the transient spaces by 9:10 a.m. and thereafter overflowing into the monthly spaces.

Between 7 a.m. and 6 p.m., the average rate of arrival was about 63 per hour, a rate, which, if uniformly distributed, might be parked by 5 attendants. Actually the incoming volume between 11 a.m. and 6 p.m. could easily have been parked by only two attendants. But the peak hour volume of 377 would require 32 attendants, and since the 15-minute volumes varied from 69 to 125, would at the same time have required a reservoir of 41 spaces to prevent backup in the street. Obviously, the extremely irregular or concentrated flow, togther with the reservoir requirement, make full-attendant-parking entirely out of the question for this facility. In the afternoon, with a peak departure rate of 263 in one hour, the reservoir space would be of no value and some patrons would have to wait as much as 45-50 minutes to get deliveries.

As has been stated, this garage was originally planned for use under either self-parking or attendant-parking. Although attendant-parking has not been attempted, it has been the thought of the Triborough Bridge and Tunnel Authority that under that plan the driver would take his car to one of the parking floors and there release it to an attendant for placing in a stall. This procedure would permit the parking activity to be spread over three floors with a force of attendants on each floor, and, because of the shortened travel distances, would greatly reduce the individual storage times, but cars would be parked two-deep and there could be relatively little use of the aisles for reservoir purposes. The number of attendants would be smaller than with full attendant service, but the operation would still be far less efficient than with self-parking.

The difference between the arrival patterns of a com-

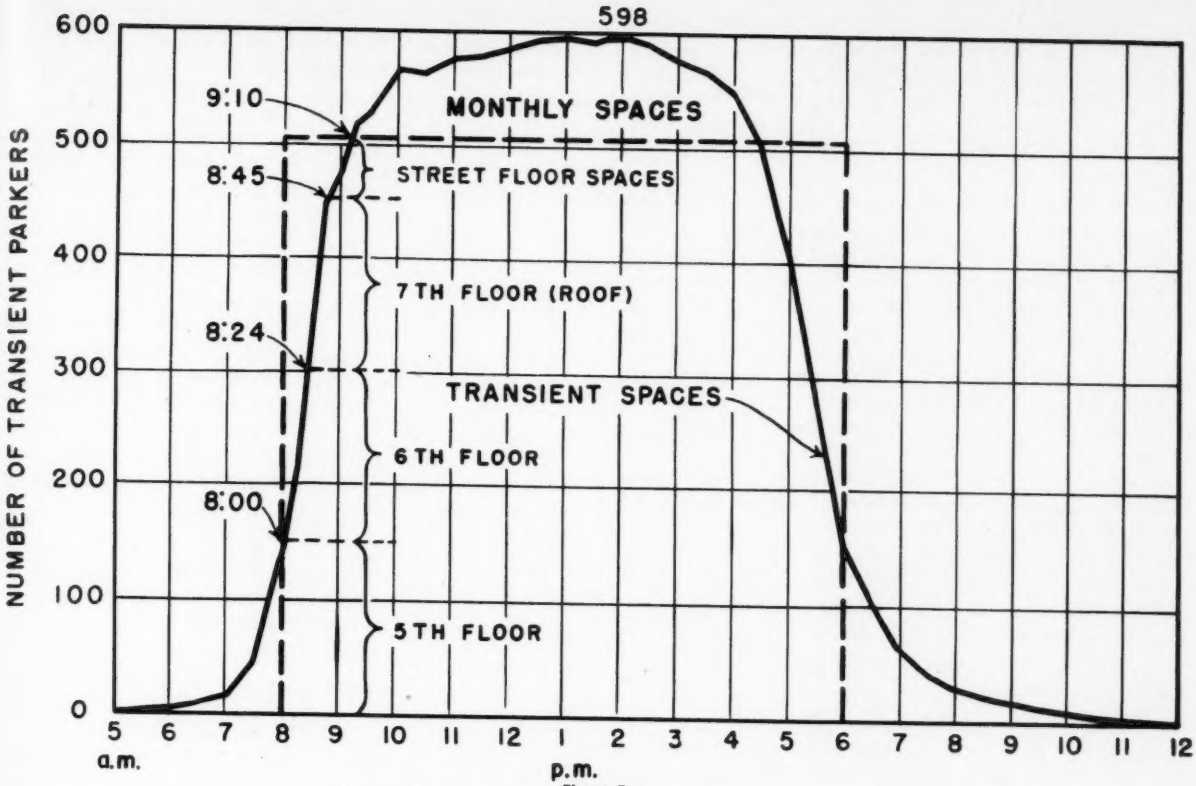

Figure 5.
Accumulation of transient parkers at Battery Garage, Wednesday, June 29, 1955.

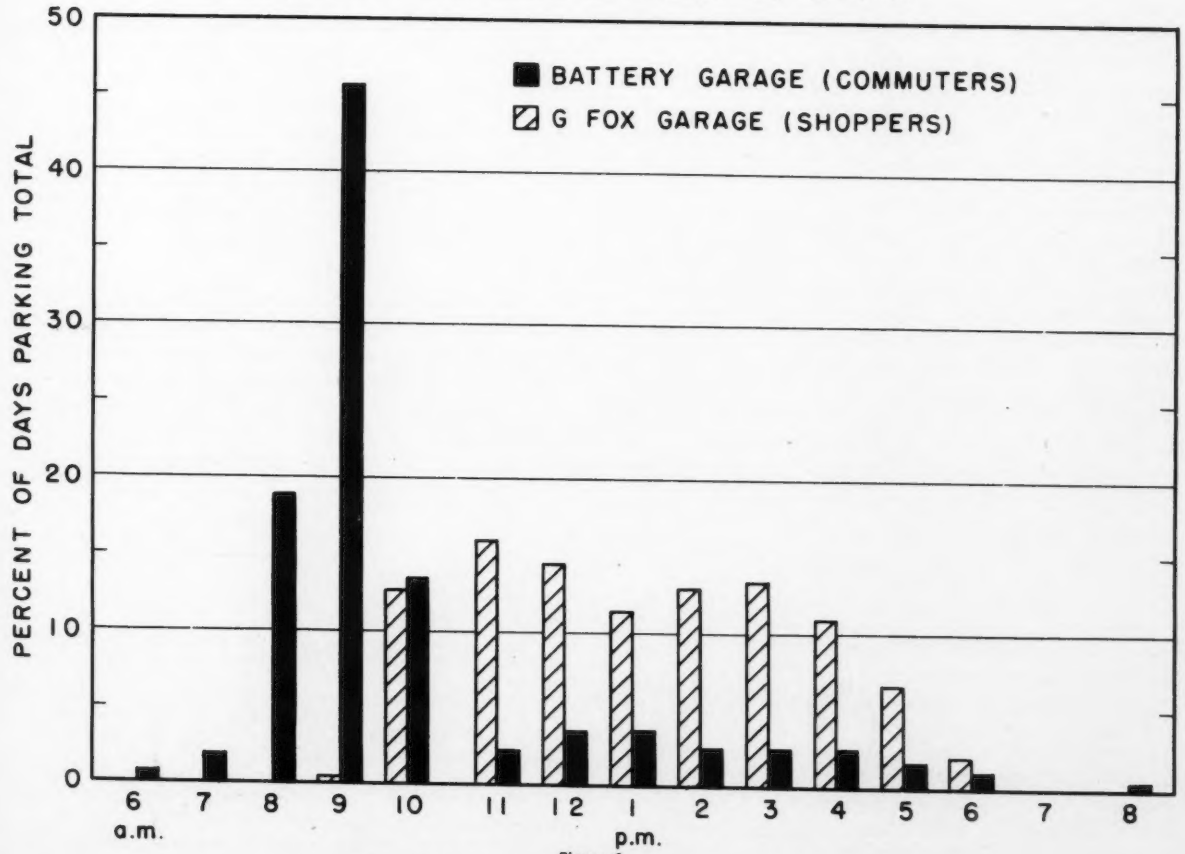

Figure 6.
Arrival rates at a commuters' garage and a shoppers' garage.

muters' garage and a shoppers' garage is clearly demonstrated in Figure 6. Because of the difference in size of the two facilities, comparison is made by showing the arrival rates in terms of percentages of the day's total. The G. Fox garage in Hartford, is operated by the G. Fox department store, and on the day studied was used by 368 parkers. The average duration was 2 hours, 11 minutes and 83 percent were shoppers. At the Battery Garage, the average duration was 7 hours, 30 minutes. At 9 a.m., the Battery Garage had received 67 percent of its day's load, compared to less than one percent at the Fox Garage. The Battery Garage received 53 percent of its day's total in one hour, while the corresponding figure at the Fox Garage was only 16 percent.

The accumulation curve for the Battery Garage, Figure 5, provides information pertinent to a matter often discussed by students of parking characteristics. For some years traffic engineers and consultants, in their analysis of parking studies, have made the point that 100 percent efficiency in the use of parking spaces at the curb or in lots or garages, is virtually impossible of attainment. That is, that because of the time lost in every turnover, and because of the nature of the arrival and departure patterns of parkers, some portion of the space hours available at any facility will be unused, even during the business hours from 8 a.m. to 6 p.m. 100 percent usage could be attained only if a facility should be filled by 8 a.m. and remain full until 6 p.m.

Careful records have been made of the performance at selected curbs known to be subjected to heavy and continuous demand all day, and from these the conclusion has been drawn that approximately 85-90 percent efficiency is the best that may be expected from curb spaces. Corresponding data for lots and garages have been difficult to obtain, but, with the knowledge that off-street facilities involve more delays, the practice has been to use factors of 80-85% efficiency for lots and garages. These factors have been generally used to "discount" the space-hours theoretically available, in comparisons of parking supply and demand.

The data from the Battery Garage offer excellent confirming evidence. Certainly the maximum efficiency should be found at a facility which is full by 9 a.m. and where the average duration is 7.5 hours. In Figure 5, the parking accumulation chart, the rectangular area bounded by the base, the 507-capacity level and the 8 a.m. and 6 p.m. ordinates represent the available space-hours, while that portion of the same area lying beneath the curve represents the space hours used. In this case, a typical day, the usage or efficiency was about 91 percent. It is reasonable to conclude, therefore, that the usual general service or shoppers' garage would have a still lower efficiency.

SECRETARY'S COLUMN

THIS IS BEING WRITTEN IN New Haven, where I feel as though I were camping out for a while! Seriously, everyone has been most kind and helpful. Miss Leftwich, Mrs. Donnellan, the Bureau staff, the auditor, the printers, all of them have tried very hard to make things as easy as possible. I am very much indebted to them.

First, as to the actual moving date. It looks as though this would take place about June 1 — perhaps some time that weekend if not on that exact day. The building is ready, and President Prisk is working with the telephone company so we can have some service in our new quarters. We will bring down our good furniture and files from New Haven— that really is about all there is, for the remainder of our equipment belongs to the University. Gordon Gravelle is lining up some additional equipment for us in Washington, and we hope to be in business as quickly as possible after we arrive.

The new address again for any who may have missed it is: 2029 K Street N.W., Washington 6, D.C.
Address all Institute correspondence there after June 1, 1956.

In addition to familiarizing myself with the office routines, and trying to make myself generally useful, considerable time has been spent in sorting out the many dusty boxes of printed reports and other documents stored away on the top floor of Strathcona Hall. You know, I think everyone ought to move once in a while, if for no other reason than that it forces you to clean out a big accumulation of stuff!

In between other jobs, your Secretary has attended two Section meetings since coming on the job — a meeting of the New England Section in Providence on April 24 and a meeting of the New York Metropolitan Section on April 26. If permitted to add the last Midwest Section meeting which I attended and a meeting of the Washington Section on April 6, I have been to four Section meetings in about six weeks! I don't think that average can be maintained, but I do hope and plan to attend as many Section meetings around the country (and Canada) as possible.

In this connection, it would be helpful if headquarters had a schedule of Section meetings, in so far as such is available.

One of the early events planned for the new office is an "open house" to which we hope as many members and friends as possible will come. Even after that, however, we hope that no ITE man or woman will come to Washington without looking us up. The latch string will always be out!

DMB

Yearbook Changes

BARR, John W. (Junior)
Assistant Engineer, Traffic & Planning Division, State Road Department, Tallahassee, Florida. SEND MAIL UNTIL JUNE 1 to: 4207 Spruce Ave., West Palm Beach, Florida.

BURLESON, Joe M. (Junior)
Traffic Engineer, City Hall, Council Bluffs, Iowa.

CONLEY, Richard A. (Junior)
Assistant Traffic Engineer, City Hall. SEND MAIL: 422 Hartline Drive, San Antonio, Texas.

PETRILLO, Paul C. (Junior)
Traffic Engineer, Ramp Buildings Corporation, New York 17. SEND MAIL: 1641 Metropolitan Avenue, New York 62, New York.

THOMAS, J. Leslie (Associate)
District Traffic Engineer, Virginia Department of Highways, Staunton. SEND MAIL: R. F. D. 2, Strasburg, Virginia.

WATT, James E., Jr. (Junior)
Traffic Engineer, Bruce Campbell and Associates, Boston 9. SEND MAIL: 112 Beachnut Road, Westwood, Massachusetts.

WELTY, William R. (Associate)
Senior Traffic Engineer, Texas Highway Department, 11th & Brazos Streets, Austin 14, Texas.

WEST, Melbourne H. (Associate)
District Traffic Engineer, California Division of Highways, P. O. Box 1499, Sacramento 7, California.

TRAFFIC NEWS

President's Committee For Traffic Safety to Hold Regional Conferences

The President's Committee for Traffic Safety has scheduled four regional conferences during the month of May, in all of which the Institute of Traffic Engineers will have an important part.

The intent of these conferences is to bring together citizen and official leadership to stimulate activity at the state and community level. State delegations have been appointed, representing as broadly as possible the public. Although principal emphasis at the conferences will be on community organization for safety, there will be workshops on the technical aspects of the problem. One of these workshops will deal with engineering.

The schedule of conferences is shown below, together with the participants in the engineering panel and the consultants.

Regional Conference	Panel	Consultants
Atlantic City May 1-2	McCain (Md.), Chrmn.; Volpe (Mass.), Barnes (Balto.), Prisk (ITE)	Hurd (Yale) and Johnson (AASHO)
Miami Beach May 14-15	Bevins (Atlanta), Chrmn.; Jones (Fla.) McMillan (S.C.), Kunde (Miami)	Hurd (Yale) and Grunow (BPR)
Chicago May 23-24	Bartlesmeyer (Ill.), Chrmn.; McMonagle (Mich.), Sorenson (Chicago), Ress (Neb.)	Hurd (Yale) and Prisk (BPR)
San Francisco May 31-June 1	Havenner (So. Cal. Auto Club), Chrmn.; McCoy (Calif.), Watrous (Colo.), Crandall, (Ore.)	Davis (ITTE-Cal) and Prisk (BPR)

Note: One or two automotive engineers will supplement the consultants listed, but names are not determined as of the date of writing.

Progress of National Committee on Urban Transportation

The National Committee on Urban Transportation have selected Detroit, Michigan; San Diego, California; Albuquerque, New Mexico; Phoenix, Arizona; Oak Park, Illinois; Syracuse, New York and Crawfordsville, Indiana as pilot cities to participate in various aspects of the comprehensive urban transportation program. The pilot studies will be under way by the latter part of May of this year and the studies in all cities are to be completed by July 1, 1957.

An advisory staff will assist the selected cities and participating transit companies in organizing and guiding the study program. The cities selected and transit companies are furnishing all personnel, equipment and materials at their own expense.

It also was announced by the Staff Director, W. A. Rusch, that the draft of the National Committee's manual has been completed.

THE GOLDEN GATE BECKONS YOU

September 25-28

for the Annual Meeting of the Institute of Traffic Engineers

at the Mark Hopkins Hotel.

IT IS NOT TOO EARLY TO MAKE YOUR PLANS!

Syracuse Transportation Conference

Seven transportation and planning specialists developed the theme "Transportation and Its Relation to Regional Planning" when the Syracuse Transportation Conference and the eighth Salzberg Memorial Lecture was held at Syracuse University, April 23.

How does the site of an industrial plant affect transportation of raw materials, supplies, and finished products? In what ways is the current exodus to the suburbs altering the transportation pattern? What are the limitations of metropolitan planning?

These and other questions related to the topics "Interaction Between Transportation Planning and Land Use" and "Better Planning for Transportation" were carefully considered at the conference by Dr. Charles S. Ascher, associate director, Institute of Public Administration, New York; Walter H. Blucher, consultant, American Society of Planning Officials, Chicago, Ill.; Charles M. Haar, Harvard University Law School, Cambridge, Mass.; Frank W. Herring, deputy director of planning and research, Port of New York Authority, New York; D. Grant Mickle, director, Traffic Engineering Division, Automotive Safety Foundation, Washington, D.C.; and Robert B. Mitchell, executive director, Philadelphia Urban Traffic and Transportation Board, Philadelphia, Pa.

The transportation conference, an annual event, is jointly sponsored by Syracuse University's College of Business Administration and the College of Engineering in conjunction with the Syracuse Traffic Club and the Syracuse Alpha Chapter of Delta Nu Alpha, transportation fraternity. Ralph A. Galbraith, dean of the College of Engineering, presided over this year's conference.

Climaxing the all-day program was the presentation of the Harry E. Salzberg Medal for distinguished contributions in transportation to Howard S. Cullman, honorary chairman, Board of Commissioners, Port of New York Authority, New York. Cullman delivered the Salzberg Memorial lecture and spoke on metropolitan regional planning.

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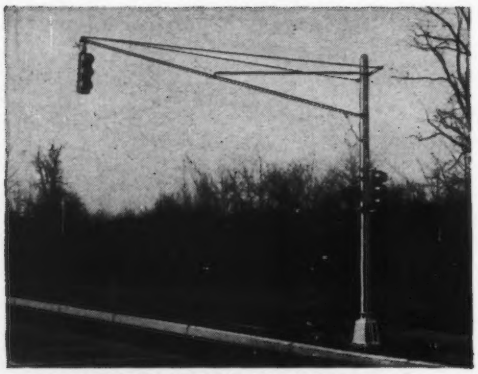

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National Safety Council Revises Basis for Inventory Awards

Since 1932 the National Safety Council has conducted the National Traffic Safety Contest, to recognize cities and states with outstanding traffic safety programs and to stimulate greater interest in accident prevention.

In 1953 an Advisory Committee of the Inventory of Traffic Safety Activities presented a recommendation which stated that the emphasis of the contest elements of the National Traffic Safety Contest be shifted from that of "contests" to the achievement of established criteria. A plan was prepared and later amended according to staff recommendations. The following amended plan is the one approved by the Board of Directors:

1. The municipal award for cities meeting 80% of criteria for each and every section evaluated be an "Award of Honor" similar to the other awards of the National Safety Council.

2. Because of the importance of balance in accident prevention activities, cities meeting 70% of the established criteria in each and every section evaluated be given an "Award of Merit."

3. Cities which receive an 80% evaluation on one or more of the sections (Death and Injury, Accident Records, School Safety, Public Safety Education and Safety Organization) to receive a "Certificate of Achievement" for each such section.

4. States to receive similar awards, based on the following performance record:

Award of Honor—85% or more in each and every section.

Award of Merit—75% or more in each and every section.

Certificate of Achievement—85% or more in any of the following sections: Death and Injury, Accident Records, Driver Licensing, School Traffic Safety Education, Public Safety Education, and Safety Organization.

5. To enable realistic appraisal of accomplishment, the percentages of performance record included above for both states and cities are subject to annual review and adjustment by the Inventory Committee and the Committee of Judges.

MEMBERSHIP APPLICATIONS

The following applications have been received since the list of applications published last month.

APPLICATIONS FOR TRANSFER

GIBSON, Arthur C.
Sign Shop Supervisor
City of Detroit
1601 Modern Avenue
Detroit, Michigan
January 9, 1956 for MEMBER grade

MUELLER, Edward A.
Assistant Engineer of Traffic and Planning
Florida State Road Department
Holland Building
Tallahassee, Florida
March 21, 1956 for ASSOCIATE grade

SAWHILL, Roy Bond
Associate Engineer, Traffic
Seattle Engineering Department
Traffic Engineering Division
401 County-City Building
Seattle 4, Washington
March 27, 1956 for ASSOCIATE grade

NEW MEMBERS

HEIDENREICH, Joseph M.
City Traffic Engineer
City Hall
Lexington, Kentucky
March 26, 1956 for MEMBER grade

JACKMAN, William T.
Instructor
Case Institute of Technology
10900 Euclid Avenue
Civil Department
Cleveland 6, Ohio
March 20, 1956 for JUNIOR grade

LOOKING AHEAD

SEPT. 17-20—ST. LOUIS, MISSOURI
Annual Meeting, American Transit Association, Jefferson Hotel.

SEPT. 17-20—DENVER, COLORADO
61st Annual Convention of the International Municipal Signal Association, Cosmopolitan Hotel.

SEPT. 25-28—SAN FRANCISCO, CALIF.
Annual Meeting of the Institute of Traffic Engineers, Mark Hopkins Hotel.

OCT. 22-26—CHICAGO, ILL.
National Safety Congress & Exposition, Hilton Hotel.

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PAINTED OR REFLECTORIZED
12" size all yellow on black base only. 18" and 28" available in standard tri-color or REFLECTORIZED all-yellow on black base.

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State Highway Administrative Changes Proposed

Proposals for changes in highway administrative powers and procedures are up for consideration or have been enacted in five states. A survey of 1956 state legislation on this subject by the National Highway Users Conference shows enactments in Maryland and Virginia, while bills are pending in Arizona, Kentucky and Michigan.

The Maryland governor has signed a bill (S. 110) to streamline the right-of-way acquisition procedure. Under the new law, after plats are made and recorded showing the center line of proposed construction, the fair market value of each property taken is determined and payment is either made to the owner or the Circuit Court, and possession may be had and construction begun. The law provides for creation of a Board of property review in each county to settle grievances of dissatisfied landowners.

A Michigan bill (H. 404) proposes creation of a $5 million revolving fund to acquire right-of-way for designated state highway routes in advance of immediate need to prevent development and consequent higher acquisition and construction costs. Money would be made available from the Motor Vehicle Highway Fund and must be fully repaid by July 1, 1966.

An Arizozna proposal (S. 4) would create the office of the state highway director at an annual salary of $15,000. The director would be the chief executive and administrative officer of the highway department. Duties of the state highway commission would be broadened, including authority to permit the right-of-way agent to obtain options on proposed additions to the state highway system.

A Kentucky bill (H. 1-X, passed one House) proposes to reorganize several state departments including the creation of an 8-member State Highway Commission to serve in an advisory capacity to the Commissioner of Highways. One advisory commissioner would be appointed from each of the eight state highway districts to be established. The advisory commission would have no administrative authority or responsibility in the operation of the department.

A Michigan bill (H. 387) would abolish the office of state highway commissioner and the 5-member advisory board. A 7-member state highway commission would be created with four members to be appointed by the governor. The other three members would be the Deans of Engineering of Michigan, Michigan State and Wayne Universities. The commission would be empowered to appoint a state highway director who would be the administrative officer.

A new Virginia law (H. 183, Ch. 87) limits State Highway Commissioners to two successive terms. Another law (S. 38, Ch. 92) grants the State Highway Commission power to make rules and regulations covering traffic on the secondary system as well as the state highway system. A Maryland measure proposing to reorganize the road commission, failed of passage.

Red Light on the Turnpike

The following article originally appeared in the April 9 issue of Time magazine.

For more than two decades U. S. road builders have looked upon high-speed, multilaned, uncrossed toll roads as the "highways of the future." The success of the pioneer Pennsylvania Turnpike, opened in 1940, established what many roadmen thought was a pattern. Their dreams were confirmed, they thought, by the rushing, booming New Jersey Turnpike, completed in 1952. Toll roads began to spread out across the country, and plans for more of them were laid out at highway association meetings, in legislatures and on drawing boards. Last week, after only a few dim warning signs, a red light was flashing on the turnpikes.

DISMAYFULLY CONTRARY

Some of the new toll roads are having financial trouble. Most striking example: the 241-mile $326 million Ohio Turnpike, which is nearing the end of its first half year of operation. Advance surveys had forecast that 14 million vehicles would roll over the road the first year, paying $20,576,000 for the privilege. So far, traffic and revenue are running at only about half the anticipated rate. Ohio officials are confident that traffic will increase in the summer travel months, but they are frankly uneasy.

The cloud over the Ohio Turnpike's prospects: trucks are avoiding it. Advance estimates were that trucks would account for 44.4% of the pike's traffic and 75% of the revenue. Instead, they make up only about a sixth of the traffic, and are producing only a little more than a third of the revenue. In a letter to Governor Frank Lausche, Turnpike Commission Chairman James W. Shocknessy said that the situation is "rather dismayfully contrary to what was expected."

Truckers contend that the Ohio fee, averages 7.2c a mile ($30 for the heaviest trucks traveling the full route), is too high. Average rate for trucks on the New Jersey toll road is only half that, and the Pennsylvania Turnpike's truck rate averages only 4.2c a mile. In Ohio, truckers maintain, it is less expensive and more practical to use the old stop-and-go highways, particularly since the turnpike has drained off passenger car traffic and left the other highways for what Shocknessy ruefully calls a "free, private right of way" for trucks.

In an effort to solve the problem, Shocknessy and his fellow commissioners have begun to woo trucking companies and truck drivers. A series of meetings has been arranged to discuss possible rate changes ("What we want to be sure of," said one turnpike man, "is that if we change, we get both more trucks and more revenue, not simply more trucks"). At 16 service plazas along the pike, drivers are offered tiled washrooms, hot showers, lunch counters and special parking facilities; now Ohio officials are considering construction of sleeping quarters.

RUTS ON THE WEB

Ohio is not the only rut on the 1,800-mile U.S. toll road web. West Virginia's 88-mile turnpike from Charleston to Princeton, which does not connect with any other expressways, last year took in not quite half the revenue it needed to break even. On the new 427-mile New York Thruway, truck revenue is disappointing. Having seen these warning signals, other states that are building toll roads have begun to consult the trucking industry before opening day.

In Indiana, where a 156-mile toll road from the end of the Ohio Turnpike to the outskirts of Chicago is to be completed this fall, highway officials have arranged a series of meetings with trucking industry leaders. Truckers will be asked for their views on rates, regulations and facilities. Weeks before the road is opened Indiana will launch a

(Continued on page 357)

State Legislators Consider Safety Belts

More than any other item of motor vehicle equipment, safety belts are claiming the interest of this year's legislative sessions, a survey by the National Highway Users Conference reveals. Seven of the fifteen state legislatures now convened are considering safety belt measures.

A new law in Virginia requires the Superintendent of State Police to establish specifications for safety belts, harnesses, attachments and installation, and forbids sale of non-approved types. Similar proposals are pending in Arizona (where bills that would require safety belts to be installed by dealers on new passenger vehicles sold after July 15, 1957, also have been introduced) and in Maryland.

A Massachusetts bill would require new vehicles registered after January 1, 1957, to be designed for equipment with safety belt attachments. Another Massachusetts proposal would require safety belts on new motor vehicles registered after January 1, 1958; a third would require them on vehicles operated after January 1, 1957; and the fourth proposes a legislative study committee to make recommendations. In New Jersey, the proposed safety belt enactment would require that vehicles capable of speeds above 65 mph have such equipment after April 1, 1957.

A New York proposal, introduced in both Houses, would require belts on passenger vehicles manufactured after January 1, 1959; similar twin bills would require such devices on vehicles other than for-hire passenger carriers and dealer licensed vehicles, registered and manufactured after January 1, 1957; and a third pair of introductions would require safety belts on passenger vehicles manufactured after January 1, 1958.

A South Carolina introduction would forbid the sale or installation of safety belts not meeting State Highway Department standards, and in Colorado a proposal which failed of enactment would have required suitable devices for the attachment of safety belts on new motor vehicles.

In addition to safety belts, New York bills would require new vehicles to be equipped with such safeguards as: dashboard crash pads, safety steering wheels, telescoping steering columns, shatterproof mirrors, protective roofs, anchored seats and non-spring door locks. A Massachusetts proposal also would require the latter device.

Gasoline Tax Proposals Being Considered In Five States

Proposals to increase motor fuel tax rates for highway purposes have been introduced in five state legislatures, a survey by the National Highway Users Conference reveals.

The proposed gasoline tax increases (per gallon), estimated annual increase in revenue (based on 1954-55 yields), and a general statement as to the use scheduled for such proceeds are as follows:

Arizona — Increase 1 cent (to 6 cents)
Annual Yield—$3.3 Million
Proposed Use — Expanded highway program.

California—4/10 cent (to 6.4 cents)
Annual Yield—16.2 Million
Proposed Use—Flood-damaged roads.

Mississippi—1 cent (to 8 cents)
Annual Yield—5.3 Million
Proposed Use—Secondary roads.

New Jersey—1 cent (to 5 cents)
Annual Yield 16. Million
Proposed Use—Federal-aid matching.

New York—1 cent (to 5 cents)
Annual Yield—30. Million
Proposed Use—Expanded state highway program.

In Massachusetts, the governor asked the legislature to approve a $200 million highway bond issue, which he said could be financed by increasing the gasoline tax 1 cent or, if coupled with a truck tax increase, by a 1/2 cent increase. A proposal to increase the Maryland tax 3/10 cent for State Port Authority purposes was killed.

Increased taxes on fuel other than gasoline have been proposed: Arizona (5 cents to 6 cents or 9 cents), California (7 cents to 7.4 cents), Michigan (6 cents to 8 cents), Mississippi (8 cents to 9 cents), New Jersey (4 cents to 5 cents), and New York 6 cents to 7.5 cents).

A Virginia bill (passed both Houses) increases the tax paid by property carriers having three or more axles from 6 cents to 8 cents per gallon. A similar Kentucky bill (passed House) would affect vehicles with more than three axles and the tax rate would increase from 7 cents to 9 cents. Kentucky has adopted a resolution for a study of taxes imposed by other states on fuel used by interstate trucks.

A new South Carolina law requires motor carriers (except two-axle, gasoline-using trucks) to pay motor fuel taxes directly to the State, on a quarterly basis, according to mileage operated therein. Credit would be given for fuel purchased in South Carolina upon which the State fuel tax had been paid. A New York bill would repeal the weight-distance tax in favor of higher registration fees and require that New York fuel taxes be paid on fuel used in that State.

RED LIGHT ON THE TURNPIKE

(Continued from page 356)

promotional campaign such as Ohio is now considering, five months after its road opened. Theoretically, the best remaining route in the U.S. for a toll highway would be between Los Angeles and San Francisco, or south from Los Angeles to San Diego, but Californians are being uncharacteristically cautious about the possibility.

In the rush to superhighways, some roadmen failed to give sufficient consideration to the fact that toll roads will pay only under quite specific conditions. The Pennsylvania Turnpike (which cost less to build because it followed the half-finished roadbed of Andrew Carnegie's old South Penn Railroad) has been a huge success because it is by far the best route through rough country. The New Jersey Turnpike has boomed because it serves an area of crushingly concentrated traffic. When such important factors are missing, toll roads may not pay.

As a result of the red light, turnpike bonds were sliding downward last week, and proponents of new toll roads were taking another look. Most traffic engineers now think that the majority of toll roads in existence and under construction will survive, but they are not optimistic about new routes. In Washington Bureau of Public Roads officials say that there are few places left in the U.S. where toll roads would be financially practical. As if to illustrate the point, private investors in Texas (where the impossible is often considered likely) have all but abandoned a plan to build a toll road from Dallas to Houston. They have not been able to find buyers for their revenue bonds.

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New Appointments . . .

Higgins Promoted to Engineer of Toll Facilities

Effective February 1, 1956, Herbert C. Higgins (Mem., ITE) was appointed Engineer of Toll Facilities for the Washington State Highway Department. In this capacity, he will represent the Director of Highways on the construction, operation and maintenance of all toll facilities in the State of Washington authorized by the Washington Toll Bridge Authority. The existing facilities under Herb's jurisdiction include the Tacoma Narrows Bridge, the Longview Toll Bridge, the Fox Island Bridge and the Washington State ferry system. Other projects either planned or proposed comprise a second Lake Washington Floating Bridge, a paralleling interstate bridge over the Columbia River, a 65 mile toll road between Tacoma and Everett and several structures to be built in urban areas. The total net worth of all these toll facilities will be over 300 million dollars, which will amount to quite an engineering responsibility.

Herbert C. Higgins

Herb, however, has had 27 years of preparation for such an administrative position. His career of contiuuous service with the Department of Highways began in 1929 after receiving his civil engineering education at Washington State College. At the inception of the State-wide Planning Survey in 1936, he became the office engineer of the newly-created division. For the next twelve years, there followed successive appointments to the positions of assistant en-

(Continued on page 361)

Harris Named Civic Progress Director

W. W. Harris (Assoc. Mem., I.T.E.) was recently named full-time Director of the Indianapolis Civic Progress Association. Harris, formerly vice president and general manager of the Indianapolis Transit System since 1950, assumed his new duties on April 1. He was graduated from the University of Wisconsin in 1925, majoring in political science. In college, Harris was an All-American halfback and enjoyed the distinction of having played against Red Grange of Illinois and the Four Horsemen of Notre Dame.

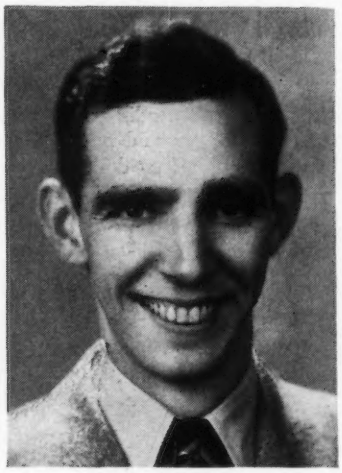
W. W. Harris

In addition to being active in the Institute of Traffic Engineers, he is a member of the American Transit Association, the Delaware Safety Council, Indianapolis Chamber of Commerce, Rotary Club, and the Mayor's Traffic Advisory Committee.

One of the major missions of the Civic Progress Association is to solve the massed movement of people in and out of the downtown district, both by public transportation and private car. In his new position, Harris will work closely with the transit system, public officials and others interested in keeping the downtown area strong as the heart of the city.

Rice Accepts New Position

Joseph F. Rice (Jr. Mem., I.T.E.) has recently accepted a position in the Office of Special Assistant for Transportation Engineering at the office of the Chief of Transportation, Department of the Army, Washington, D.C. He was formerly on the staff of the Director of the Division of Traffic, Kentucky Highway Department.



Joseph F. Rice

He is a graduate of the College of Engineering at the University of Kentucky and later completed the one-year program at the Yale Bureau of Highway Traffic. His experience includes several years of highway construction and highway traffic work with the Kentucky Department of Highways and one year of heavy construction work while on duty with the U. S. Army Corps of Engineers in Europe.

His new job is in an office headed by D. K. Chacey, a member of the Institute, and he carries a title of Chief of the Access Roads Branch. The work involves maintaining records for budgetary and policy purposes as well as reviewing engineering studies of military access road requests.

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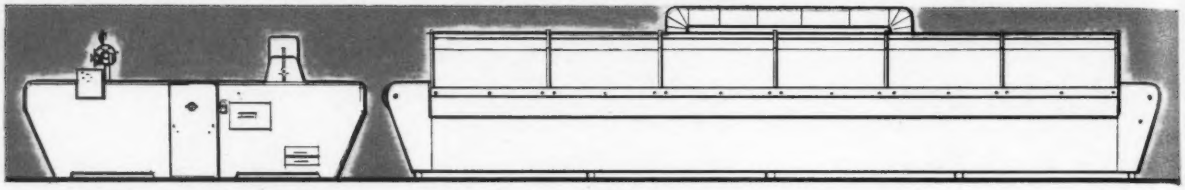

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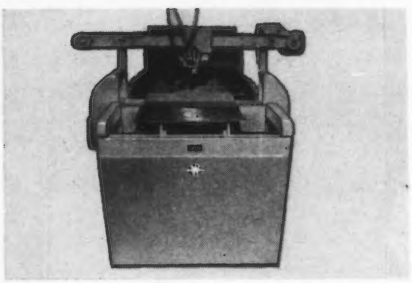

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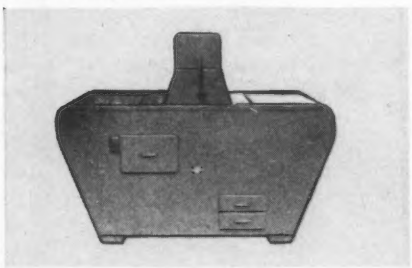

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HIGGINS PROMOTED
(Continued from page 358)

gineer of Plans and Surveys division, assistant right-of-way engineer and assistant office engineer on the headquarters staff.

In 1948, he was promoted to head the Traffic Engineering division where, for a period of three years, he built up an organization that won national recognition of its professional activities. In 1951, the State Highway Commission requested his services as its Secretary. During this time, he also performed the duties of headquarters Office Engineer, a position that he retained until his recent promotion to Engineer of Toll Facilities. Particularly fitting to his well-rounded administrative capabilities, he has also been performing liaison functions between the Department of Highways and the legislative committees during the last six sessions of the State Legislature. In this activity, he properly informed the members of the Legislature as to the highway needs of the State and kept in contact with all legal changes and appropriations as they were funneled through channels.

In spite of his wide-spread activities in the field of highway engineering, Herb is really a "traffic man" at heart and has never ceased to contribute his talented services in that field of endeavor. He has, in the past, filled the offices of Vice-president and President of the Western Section of the Institute of Traffic Engineers. His leadership qualifications have most recently been summoned at the Institute's annual meeting in Pittsburgh, where he was appointed to fill an unexpired term to represent District No. 6 on the National Board of Direction.

Herb was married to Miss Anne Carter of Bellingham in 1930, and they now have a married daughter and a teen-age son. He resides with his wife and son in their attractive beach home on Butler's Cove just outside Olympia. To keep himself in trim and make a few nickles, he plays golf with friends at the nearby Olympia Country Club and fishes in front of his house for Puget Sound salmon.

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(Continued on page 362)

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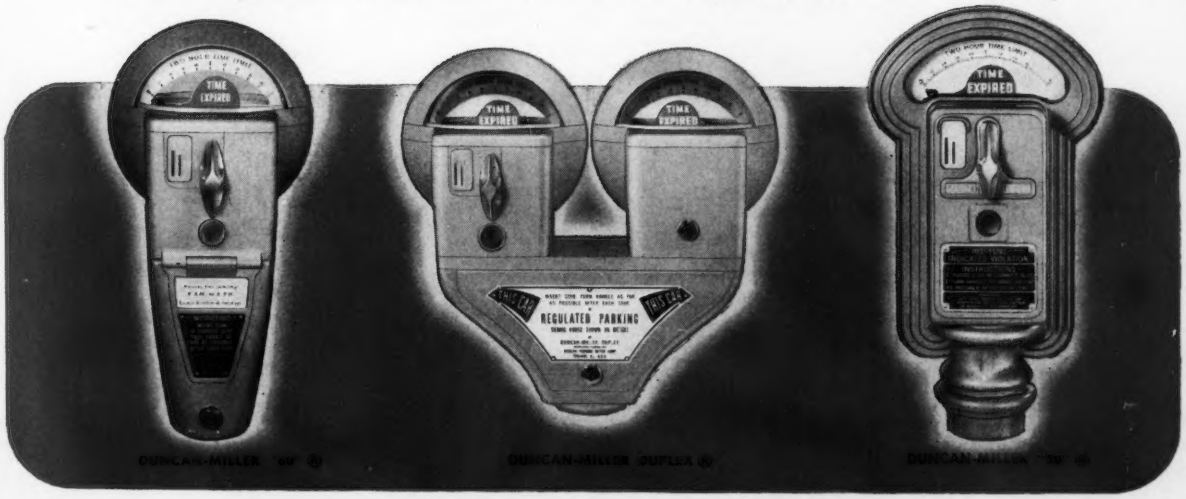

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SECTION NEWS

MICHIGAN SECTION

The February meeting of the Michigan Section was held in Lansing at the 40 and 8. After eating another meal prepared by the boys of Planning & Traffic we wonder why they waste their talent on traffic matters.

A report from **Carl McMonagle** on the decision of the committee working on the Traffic Engineering Conference which was planned for April at Kellogg Center, Michigan State University, was presented. The committee decided there were too many conflicting meetings at this time and that there was not enough time to properly plan the conference. Early fall—October 17, 18, and 19—seemed to be favored over the dates of October 3, 4, and 5. **Gordon Sheehe** said rooms were being held for both dates but that a firm commitment was necessary soon. **Russ Harrison** wanted to know the type of program being formulated. **Joe Weymeyer** also expressed interest and concern over the type of program. **McMonagle** stated that it would be an instruction conference and that it would be an excellent opportunity to promote traffic engineering in towns and cities. He pointed out that the section must be sold on traffic engineering and do everything possible to encourage the use of traffic engineering techniques. **Weymeyer** moved that the conference be held on October 17, 18, and 19, 1956.

New business brought an explanation of the new Traffic Safety Center at MSU by Director **Gordon Sheehe.** He said that a staff of about thirty persons would be employed and that obtaining an adequate staff will delay full operation. He invited questions about the operation of the center as now proposed.

Sam Levine, our able Program Chairman, introduced **Larry Rubin,** Executive Secretary, Mackinac Bridge Authority, who reviewed the history of the bridge. He said that 73 years ago a proposal to build a bridge or a tunnel across the Straits was made. In 1920 an elaborate plan was prepared. In 1923 the State Highway Department established ferry service——railroad ferries were the only link prior to this. In 1923 additional ferries were added. In 1928 a survey indicated a need for a bridge but it died in committee. It was again proposed as a depression project but was rejected. In 1936 another proposal was turned down in Washington. More ferries were added as traffic increased. In 1941 a causeway was built about 4000 feet from the St. Ignace shore for ferry use. 1942 World War II dashed bridge hopes. After the War the ferry Vacationland was put into service but it was soon evident that even this modern ferry was not the answer. In June 1950 the present authority was established its functions being: (1.) To determine if bridge could be built to withstand forces of Nature; (2.) To determine whether or not the cost was feasible—if it would be self-liquidating. After much work the authority was ready to go to market in March, 1953, and after some trying experiences in the bond market it received a check for $96,400,900.33 on February 17, 1954.

Mr. Rubin stated that work is progressing according to schedule and that the bridge should be open to traffic in November, 1957.

Allen T. Hayes
Associate Editor

MIDWEST SECTION

Snipped from Midwest Newsletter, **Elizabeth Jackson,** Editor.

On Saturday, January 28th, a herd of Midwest Ites and their feminine companions flocked to the Stock Yard

(Continued on page 366)

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SECTION NEWS

(Continued from page 365)

Inn for the Fifth Annual Ladies' Nite of the Midwest Section. A total of 110 head were in attendance.

JOB CHANGES, MILWAUKEE

Mr. Martin E. Bruening, previously Senior Traffic Control Engineer and Acting Traffic Engineer subsequent to Mr. Howard F. Ilgner's death, has been promoted to the position of Traffic Engineer and Superintendent of the Bureau of Traffic Engineering and Electrical Services for the City of Milwaukee, Wisconsin. He is now responsible for traffic engineering, street lighting, fire and police alarm communications, electrical services for public buildings and bridges, and decorative and special lighting. His Bureau is also responsible for the development of City of Milwaukee operated playground facilities and lighting for all playgrounds including those under the jurisdiction of other governmental agencies, and his position includes all phases of on-and-off street parking developments. His staff of engineering, supervisory, and shop personnel includes approximately 381 employees.

Mr. Ervin R. Leiser has been promoted to the position of Senior Traffic Control Engineer, the position Mr. Bruening formerly held. As such, Mr. Leiser acts as Deputy Traffic Engineer for the City of Milwaukee.

Congratulations to Mr. Bruening and Mr. Leiser!

JOB CHANGES, CHICAGO

Recently, Midwest ITEs Bill Bauch and Mike Hartigan moved into new positions. Bill is now Engineer of Design with the new Illinois Toll Road Commission and Mike has left the Bureau of Street Traffic and Parking to take over Bill's former duties as Expressway Traffic Engineer for the State of Illinois.

Bill is in charge of the design work under George Jackson, Chief Engineer. His duties are largely administrative, overseeing and setting policies for utilities contracts, right-of-way acquisition, and construction designs. The actual design work will be done by twenty-four consultants who are now being retained.

The duties that Mike takes over with the State of Illinois will not be too different from some he has been performing in the past. He will continue his work with the Design Subcommittee as well as coping with the operational problems on Chicago's growing expressway system. Included in these are design of expressway signals and signs and writing specifications for new signing materials.

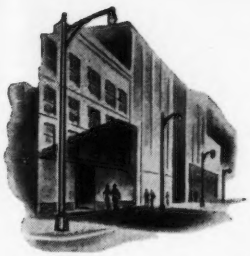
The new jobs should offer new challenges for both men, Midwest ITEms is pleased that they are able to move ahead in their field and still remain in our midst.

ILL TRAFFIC CONFERENCE

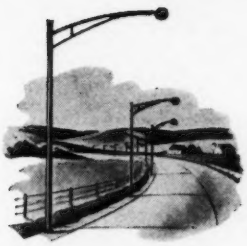
Approximately 100 traffic engineers and safety officials attended the 8th Annual Illinois Traffic Engineering Conference held March 1 and 2, 1956 at the University of Illinois, Urbana, Illinois. The conference was sponsored by the Midwest Section of the Institute of Traffic Engineers, the Illinois Division of Highways, and the Department of Civil Engineering at the University of Illinois in cooperation with the Division of University Extension.

The conference consisted of 4 half-day sessions, each dealing with the following topics: Future Traffic Headaches, Vehicular Speed Regulation, School Crossing Protection, and How Communities Can Improve Local Traffic Conditions.

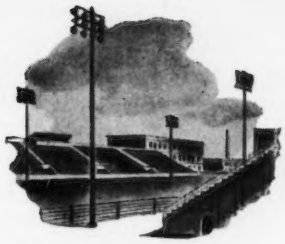
Members of the Midwest Section who participated in the program were: George Barton, Harry Harrison, Dan Branigan, Stan Baker, Fred Potenza, Bill Marston, and Dan Hanson. Other speakers on the program included a Judge of Chicago Municipal Court, a Chairman of the House of Representatives' Roads and Bridges Committee, Police Officers, School Officials, and oth-



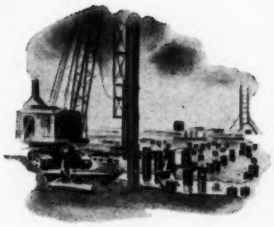
Street Lighting Poles



Highway Lighting Poles



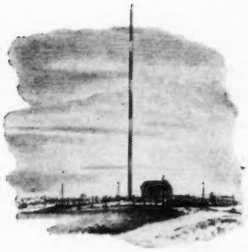
Floodlighting Poles



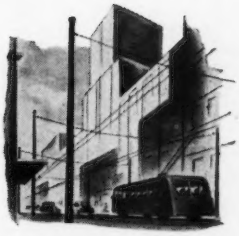
Foundation Piles

Sign Poles

Overhead Sign Supports



Antenna Poles



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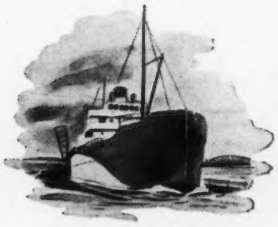
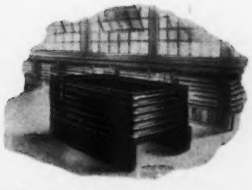


Booms and Masts



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ers interested in the Traffic Safety field.

An interesting and informal evening session entitled, "The Traffic Jam," was held, during which a film of the 1955 World Series was shown.

All in all, everyone who attended this 2-day session left the meeting with a fresh and more vigorous approach to everybody's problem—TRAFFIC!

MISSOURI VALLEY SECTION

During the latter part of February this Associate Editor paid a visit to the Gulf Coast States including Mississippi and Louisiana. As always the colored route markers used by **Art White** in Mississippi were most pleasing to see. Traffic controls and general highway operation in Mississippi and Lousiana as well as in Arkansas and Tennessee seemed very modern, and in the most part adhered to the best standards. Memphis, long a bugaboo to this writer for some reason, provided a clearer route to follow this time. Perhaps those sotto voce remarks of past years, broadcast by mental telepathy, reached Nashville after all.

At least five minutes out of each day during this vacation period were spent in thinking about, and sympathizing with, our members in the Northern States. To paraphrase the late Horace Mann, it is this writer's suggestion that the young man should go south, at least in the winter.

During the Mississippi Valley Meeting of the American Association of State Highway Officials, **Dick Burton** of Oklahoma, **Bill Price** of Iowa, **Francis Barkley** of Kansas, as well as the writer, all members of the Missouri Valley Section, were in attendance. The states of Ohio, Indiana and Illinois were also represented. **Bill Price** presided over the meeting and gave an excellent account of himself.

It has been reported that **George Fisher** of Wichita, Kansas, has at last procured an assistant to take **Woody Rankin's** place. Recent communiques coming out of Wichita have had **George** in a frantic state due to the fact that he had no assistant and vacation season was coming up. If the reports of George's new appointment are true, we hope to have a more detailed account of it in a subsequent news letter.

President **Joe Feuchter** has called a meeting of the Section for May 4, 5 and 6 at St. Louis. It is anticipated that the annual business meeting will take place during the seventh inning stretch at Busch Stadium.

The 8th Annual Traffic Engineering Conference, jointly sponsored by the Missouri State Highway Department, the Missouri Municipal League and the Missouri Valley Section, and presented by the University of Missouri, will be held at Columbia, Missouri, May 17-18.

Leon W. Corder
Associate Editor

NEW ENGLAND SECTION

Charlie Hughes is keeping busy in Hartford these days directing design work for using the $100,000.00 traffic signal budget he is to get this year. Plans for a series of isolated intersections have already been completed. Work will be started on them as soon as the budget money becomes available. **Charlie** also intends modernizing a 20-year-old downtown inter-connected system.

There's a lot of news this month from the New Haven offices of **Wilbur Smith & Associates:**

Charlie Pratt deserted the bachelor brigade on April 7. Details of the altercation are not available at this time. All of **Charlie's** friends can get this information by sending a wedding gift. The vital statistics will be included in the thank you note.

Gene Simm took over as Traffic Engineer for the City of Harrisburg, Pennsylvania, on February 23. **Gene** has all the best wishes of his former associates at the Wilbur Smith office as well as those of the other members of the New England Section.

To make up for the loss of **Gene Simm** and the impairment of **Charlie Pratt**, the Wilbur Smith office just signed on two new engineers, **Walt Addison** and **Bob Cox. Walt** put in time with the New York City Department of Traffic and the Traffic Engineering Department of the Association of Casualty and Surety Companies before coming to New Haven. **Bob** is out of the University of Illinois. Both will be welcome additions to the New England Section.

Recent visitors to the New England area include **Jim Musick** and **Jack Hulett. Jim** was out to visit Automatic Signal at Norwalk and check personally on new developments in the signal equipment field. He took advantage of being so near New Haven to stop in and see **Fred Hurd, Tom Seburn, Matt Huber** and **Irene Booth** at the Bureau and to visit Bureau classmates **Charlie Pratt** and **Gerry Drake** at the Wilbur Smith office.

Jack Hulett, signal peddler in Texas, came north by mistake. He started on a swing through the northeast part of Texas and hit the New York City limits before he realized he was out of the State.

Here's the traffic control system everybody's talking about...

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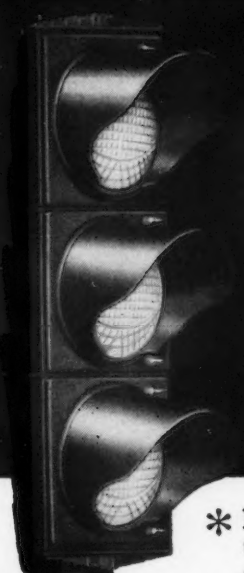

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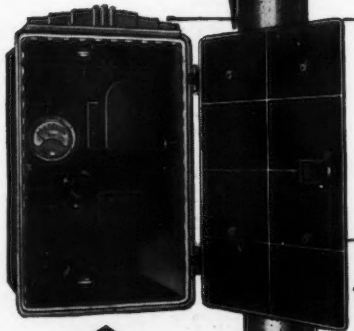
Battle Creek, Michigan
Vicksburg, Mississippi
St. Joseph, Missouri
Batavia, New York
Rochester, New York
Goldsboro, North Carolina
Toledo, Ohio
Tulsa, Oklahoma
Klamath Falls, Oregon
McKeesport, Pennsylvania
Bristol, Tennessee
Amarillo, Texas
Austin, Texas
Dallas, Texas
Laredo, Texas
Longview, Texas
Norfolk, Virginia
Bellingham, Washington
Green Bay, Wisconsin
Cheyenne, Wyoming
Melbourne, Australia
Montevideo, Uruguay



* **Buffalo, N. Y.** ". . . many times we were more than pleased that we chose a system so reliable – one that could be adjusted on the spot with the only tools required being a key to open the cabinet."

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* **Lubbock, Texas.** "We are using Crouse-Hinds three-dial controllers to advantage. At one critical intersection, the traffic count was 2107 vehicles during the peak hour. The new installation was made approximately one year ago, and today, 4152 vehicles are moved through this intersection during the afternoon peak hour period."

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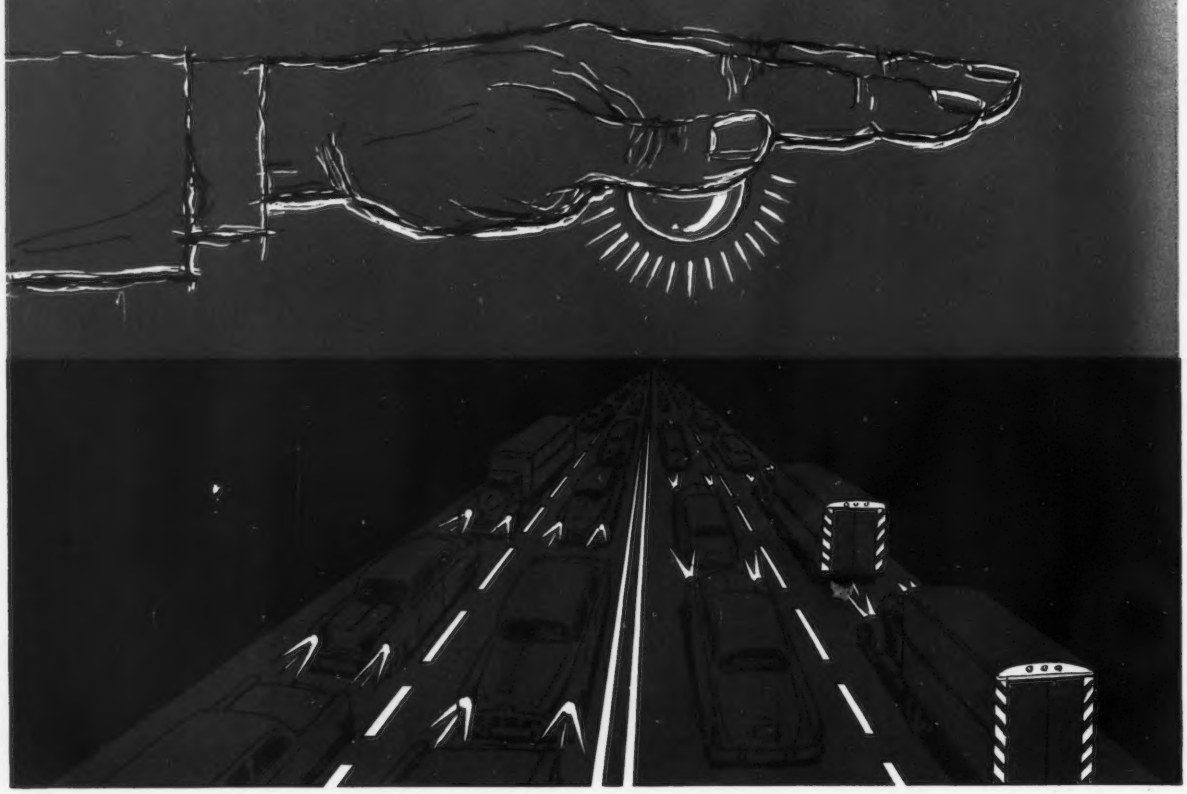

Highway Centerlines and No Passing Zone Lines are today regarded as a "must" in many states, particularly where studies reveal areas of high accident rates.

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ST. LOUIS 23, MISSOURI

Strictly Business

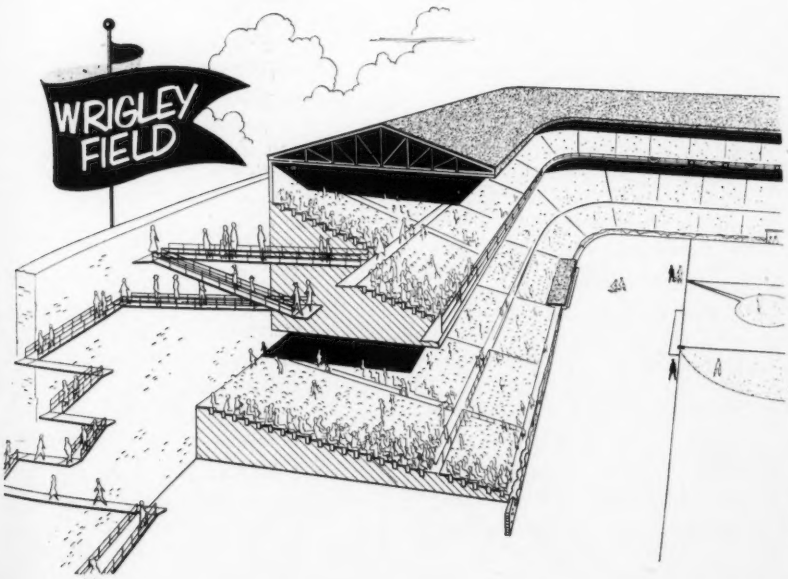
"Speedwalk" Passenger Conveyors for Wrigley Field

Eight Speedwalk passenger conveyor units have been purchased by the management of Wrigley Field from the Stephens-Adamson Mfg. Co. of Aurora, Illinois. They will operate in two sections of four units each to carry fans from ground level to grandstand and from grandstand to upper deck. Total length of the Speedwalk units will be 400 feet on the eight slope runs. Passengers will move uphill a total vertical distance of 60 feet.

Spectators wishing to avoid the long uphill climb to high grandstand seats or upper deck locations will simply step onto a flat moving belt at ground level. Once on the belt they can either ride or walk, with the option of choosing speed or comfort. The Speedwalk will be a real boon to fans with heart conditions or other physical disabilities, since the only walking required is the short horizontal distance between succeeding ramps. Unlike moving stairways, Speedwalk units can be entered without the necessity of passengers stepping on a relatively limited tread surface since the endless flat belt offers an obstruction free surface.

Open type handrails on the Wrigley Field installation will give clear visibility to ushers in charge of the Speedwalk units. Four centrally located control boxes will operate the passenger conveyors in four groups of two units each. Belts will be reversible so that fans will be carried both to and from their seating section.

The lower four belt Speedwalk system utilizes 5 1/2 foot wide belts for a rated capacity of 10,800 passengers per hour. The upper level system, handling fewer fans, will be equipped with 3 1/2 foot wide belts for a rated capacity of 7200 passengers per hour.



Gravity-Feed Marking Machine Available

A new gravity-feed marking machine, with triple the paint capacity of standard hand models, has been developed by the H. C. Sweet Company at the request of present Florline marking machine users.

Called the Florline-King, it holds 5 gallons of paint, lacquer or whitewash and incorporates many of the operating advantages of power machines while maintaining lightness of weight, easy handling and storage. The Florline-King makes lines around and between cars, machinery and stock, etc. with no mist hazard, no need to clear areas to be painted or to paint in costly off-hour periods. Curved, straight or skip lines can be made with a minimum of operator direction.

The Florline-King is quickly convertible for working in narrow crowded aisles, or between trucks and cars. The

barrel is 6 1/2" in diameter and when rear support wheels are removed, the full carriage width is only 8 inches.

This low cost machine is made of heavy gauge metal with all-welded seams for heavy duty and long life. It has been successfully tested and used by industry, municipalities, schools and government services in the United States and Canada. Priced at $152.50, it is manufactured by the H. C. Sweet Company, 12345 Telegraph Road, Detroit 39, Michigan.

High Visibility Street Name Signs

Harrison, N. Y. like many modern communities, recognizes the need for attractive, clearly legible street name signs. Installation was recently completed throughout the town of a scien-

tifically designed sign which provides legibility of a high order either by day or night. The signs, a product of Traffic & Street Sign Company, Newark, New Jersey, are all aluminum, with "Scotchlite" reflective facings. Teardrop cross section design projects the legend down to the eye level of pedestrians and motorists.

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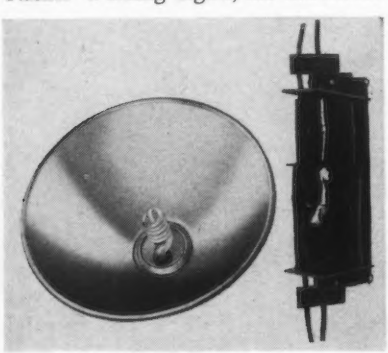
STRICTLY BUSINESS (Continued)

Neo-Converter for Traffic Signals

The Neo-Flasher Manufacturing Company, manufacturers of the original Neo-Flasher Warning Lights, has introduced



a new product, the Neo-Converter, for traffic signals which eliminates the troublesome problem of replacing your present incandescent bulbs.

The Neo-Converter comprises 3 parts: the gas vapor tube, the reflector, and the neo-converter with mounting brackets. These parts are constructed to convert the existing traffic signal to gas vapor tubes which will not burn out. The Neo-Converter has the same brilliance as well as same color as incandescent signals, and the complete converter can be installed in a matter of 10 to 15 minutes time. The Neo-Converter fits all standard 8 3/8" traffic signals.

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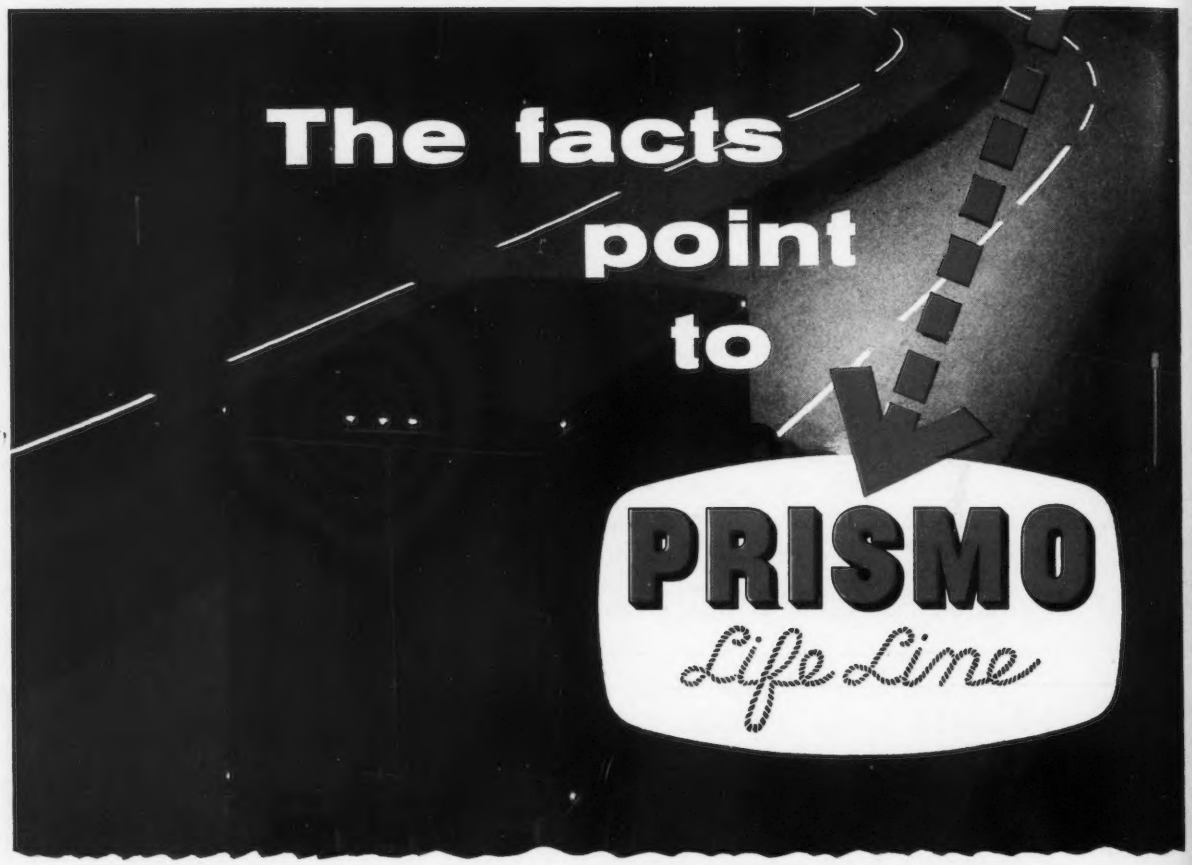

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4. IT'S A FACT — Prismo LifeLine is practically indestructible — takes a beating from heavy-unit and stop-and-go traffic — withstands abrasion from tire chains.

Low-cost, trouble-free, reliable protection for highway and in-town traffic is yours with Prismo LifeLine®. Investigate. Our illustrated catalog No. 354 gives complete data. Your copy will be sent immediately upon request.

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